ONTARIO
DEPARTMENT OF MINES

Mineral Resources Circular No. 7

Molybdenum Deposits of Ontario

By

F. J. JOHNSTON

Compliments of

ONTARIO
MINISTRY OF NORTHERN DEVELOPMENT
AND MINES

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Molybdenum Deposits of Ontario

By

F. J. Johnston

ABSTRACT

This mineral inventory briefly describes or lists 308 molybdenum occurrences in Ontario. There has been only sporadic production from any of the properties and this was mainly during the First World War from hand-cobbing operations in eastern Ontario.

MOLYBDENUM DEPOSITS OF ONTARIO

By

F. J. Johnston[1]

Introduction

There are more than 300 reported molybdenum occurrences in Ontario but there are no mines presently producing the metal either as a by-product or as the principal metallic constituent. Practically all of Ontario's production was during World War I and came from eastern Ontario, mostly from hand-cobbing operations. Small shipments have been made since that time particularly prior to and during World War II. The last molybdenum shipments were in 1964 from Pax International Mines Limited. Production statistics are shown in Table 1.

Properties of Molybdenite: Molybdenite (MoS_2) is the most common mineral of molybdenum and is the only one of economic significance found in Ontario. Molybdenite physically resembles graphite which shares its softness and greasy feel but may be distinguished from it in a number of ways.

Molybdenite is soluble in nitric acid and lead-grey in colour while graphite is grey-black. Molybdenite gives a bluish-grey trace on paper and a greenish-grey streak on porcelain while graphite gives a grey-black streak on

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[1]Geologist, Ontario Department of Mines, Toronto. Manuscript received by the Director, Geological Branch, 23 Jan. 1968.

porcelain. Under the oxidizing flame of the blowpipe molybdenite gives off sulphur fumes on charcoal and colourful coatings surround the assay. A violet colour is commonly seen between the divided cleavage flakes of molybdenite.

Table 1. Ontario Molybdenum Production*

Year	Ore (tons)	Concentrates (lbs.)	Value ($)
1902	3¼		400
1903	85		1,275
1915	192		12,859
1915		1,068	1,240
1916		24,562	26,393
1917		77,517	108,501
1918		47,517	59,067
1931		1,222	280
1937		16,500	8,047
1938		13,000	4,500
1939		482	216
1942		423	150
1944		2,815	1,082
1964		11,393	19,026

* Ontario Dept. of Mines, statistical files.

Uses: Molybdenum finds its principal use as an alloying element in iron and steel. The "low-molybdenum" steels so-called contain less than 1 percent and are used extensively in the automotive industry and in the manufacture of farm implements and railway forgings and bolts. The "high-molybdenum" steels contain more than 1 percent and are much used for permanent magnets, rustless steels, dyes, and high speed tools. The greater strength of molybdenum steels as

compared with ordinary steel reduces weight materially.

Molybdenum is also used in the manufacture of lubricants, fertilizers, dyes and lithographic inks and as a catalyst in the petroleum industry.

Types of Deposits: Molybdenum is a common accessory mineral in certain felsic igneous rocks including granitic rocks, pegmatites and aplites. It is usually of late origin being connected with quartz veinlets and sericitization. In pegmatites the molybdenite flakes may be large and well crystallized but where it occurs disseminated in the body of the igneous rock as in some of the porphyry copper-molybdenum deposits it may be very fine-grained. Radioactive pegmatites commonly contain minor amounts of molybdenite.

Molybdenite is also common to many veins that contain gold, silver, scheelite, wolframite, topaz and fluorite.

Contact metasomatic deposits containing molybdenite are found in eastern Ontario and generally lie at the contact of granitic rocks or pegmatite with crystalline limestone in a zone of metamorphic pyroxenite. Pyrite and pyrrhotite usually accompany the molybdenite in these deposits.

Small copper-molybdenum deposits that in part resemble the large tonnage porphyry copper-molybdenum deposits of western Canada and the United States are represented by the Jogran Mines Ltd. property in the District of Algoma and the Beidleman Bay property of Steep Rock Iron Mines Ltd. in

the District of Kenora.

Examples of breccia or shatter zones that have been cemented by quartz and/or quartz-feldspar veins carrying molybdenum and copper mineralization are the Tribag Mining Company Ltd. property and the Net Lake property in Strathy township.

Sources of Information: The bulk of the material for this compilation was taken from a large number of publications of the Ontario Department of Mines and the Geological Survey of Canada. The principal publications providing basic background information are those of Walker (1911), Parsons (1917), Eardley-Wilmot (1925), Satterly (1942; 1943 and 1944), Thomson (1943) and Vokes (1963). The last publication is the most complete and informative publication on molybdenum deposits of Canada and where more detailed descriptions of the major deposits in Ontario are required this work should be consulted. The technical and commercial aspects of molybdenum mining, refining and uses has been dealt with in a report by Schneider (1963). Assessment work files at the various resident geologists' offices as well as information gathered from various companies, the Canadian Mines Handbook, Northern Miner, and Financial Post Survey of Mines were used to up-date the information gathered from the above sources.

The Mineral Resources Division of the Department of Energy, Mines and Resources provided the writer with files on

various molybdenum occurrences and these are listed in the references as M.R.D. files.

Maps produced by the Algoma Central and Hudson Bay Railway Company as part of their mineral evaluation program initiated in 1960 have been used to locate a number of molybdenum occurrences in the District of Algoma. These maps have been designated as A.C.R. maps in the references.

Not all the references have been given for the individual properties but those believed to be the latest and the most pertinent are included.

Location: The occurrences are arranged by territorial districts or counties (see Figure 1) and then by townships. Where the township is subdivided they are listed in ascending order of concession and lot numbers and where undivided they are listed alphabetically. In the Districts of Thunder Bay and Kenora where there are large unsurveyed areas the deposits are located and listed by the National Topographic System (N.T.S.) and by latitude and longitude where convenient. Where bracketed names appear after the location in the tabulations or following the property name these refer to local names, topographic features, or formerly used names that were used to describe the deposits.

Acknowledgments: The writer would like to thank various company officials and resident geologists of the Ontario Department of Mines and Mr. K.R. Clemiss, mining recorder,

HUDSON BAY
JAMES BAY
MANITOBA
KENORA (PATRICIA PORTION)
QUEBEC
LAKE WINNIPEG
THUNDER BAY
COCHRANE
KENORA
RAINY RIVER
SUDBURY
TIMISKAMING
NIPISSING
PARRY SOUND
MANITOULIN
LAKE SUPERIOR
LAKE HURON
LAKE ONTARIO
LAKE ERIE
LAKE MICHIGAN
U.S.A.
Figure 1
ONTARIO
DISTRICTS AND COUNTIES
International and interprovincial boundaries
Territorial District boundaries
County boundaries
Scale of Miles
Longitude west from Greenwich
MRC. 7

Sioux Lookout for information supplied from their offices. Dr. J. Satterly provided many helpful suggestions for which the writer is grateful.

The able assistance and co-operation of Mr. L. Jensen who assisted the writer and did much of the compiling for this report is gratefully acknowledged.

DESCRIPTION OF DEPOSITS

DISTRICT OF ALGOMA

GAUDETTE TOWNSHIP

Crichton and Rivers

Location: 5 miles northeast of Searchmont, Gaudette township, District of Algoma. Claim Nos. S.S.M. 12997 to 13003.

Minerals Present: Molybdenite.

Development: In 1943, 1,500 feet of open cut, 8 feet deep and 12 drill holes totalling 2,000 feet. 100 tons of ore was produced and 42 tons shipped for a total value of $1,082. Trenching carried out in 1965 by Michigan Mining and Milling Ltd. The property had been prospected for uranium in 1960 by Alur Mines Ltd.

Geology: Molybdenite mineralization occurs in flat-lying pegmatite in biotite gneiss.

References: O.D.M., resident geologist, Sault Ste. Marie, files.
O.D.M., Vol. 53, 1944, pt. 1, p. 182.
O.D.M., Map 2108.

Gratton Mine

Location: 1½ miles from Searchmont on the Wabos road, Gaudette township, District of Algoma.

Minerals Present: Molybdenite, chalcopyrite.

Development: Pits blasted in southwest face of a large ridge northeast of Searchmont.

Geology: Quartz vein or lens occurs adjacent to a narrow granitic zone in mafic hornblende gneiss. Strike of the vein is N25°W and the dip is 35°E.

Chalcopyrite and molybdenite-bearing quartz occurs adjacent to trenches but little vein material is visible in outcrops, having been mainly excavated from pits. The vein is cut off by a mafic intrusive.

References: O.D.M., resident geologist, Sault Ste. Marie, files.
O.D.M., Map No. 2108.

Meyer-Idziak

Location: 1-1/3 miles northeast of Searchmont, Gaudette township, District of Algoma. Claim S.S.M. 59959.

Minerals Present: Molybdenite, magnetite, chalcopyrite, pyrite.

Development: The property was mapped geologically and 6 drill holes totalling 515 feet were bored in 1961.

Geology: Sparse molybdenite occurs in pegmatitic zones in granitic gneisses.

References: O.D.M., resident geologist, Sault Ste. Marie, files.
O.D.M., Map No. 2108.

Selby-Kutchie-Powell

Location: SW¼ of N½, lot 2, concession 2, Gaudette township, District of Algoma, 4 miles northeast of Searchmont on the Goulais River road.

Development: In 1935 trenching and geological mapping. Examined in 1966 by Algoma Central Railway.

Geology: Series of mineralized flat-lying quartz veins in quartzite. Mineralization is localized near the margins of the quartz vein.

References: O.D.M., resident geologist, Sault Ste. Marie, files.
O.D.M., Map No. 2108.

RYAN TOWNSHIP

Jogran Mines Ltd.

Location: Ryan township, District of Algoma. Claims S.S.M. 59846, 62917, 62918, 65883, 65884, 62886, 62888 to 62891, 64225, 66421 to 66430.

Minerals Present: Chalcopyrite, molybdenite, chalcocite, pyrite.

Development: The property was staked in 1962 as an iron prospect by Messrs. Haugeneder, Kell and Richards with some trenching being done. In 1963, McKinney Gold Mines Ltd. optioned the 21 claims based on copper showings in the greenstone. In 1964, Jogran Mines Ltd. was formed as a subsidiary of McKinney Gold Mines and drilled 9 holes (5200 feet) in a quartz-feldspar porphyry containing molybdenite disseminations. Phelps-Dodge Corp. of Canada Ltd. optioned the 21 claims of Jogran Mines and acquired 67 additional bordering claims. They completed an I.P. survey and 1 drill hole on the molybdenite occurrence. Other drilling with a total of 10,333 feet was completed in other parts of the property on copper occurrences. Option was terminated in January, 1967.

Geology: Disseminated chalcopyrite, pyrite, molybdenite and rare chalcocite occur in an altered quartz-feldspar porphyry that intrudes mafic volcanics. Some chalcopyrite and pyrite also occurs in narrow fracture zones.

Dimensions and Grade: Grades of 0.19 percent copper and 0.053 percent molybdenite across a width of 600 feet and along a strike of 400 feet have been reported. (Northern Miner, June 9, 1966, p. 13).

References: Northern Miner, June 9, 1966, February 23, 1967, May 4, 1967.
Giblin (1966, p. 78).
O.D.M., resident geologist, Sault Ste. Marie, files.

TOWNSHIP 23, RANGE 10

Golf Lake

Location: Northwest corner of Township 23, Range 10, District of Algoma. Claims S.S.M. 61659 to 61662.

Minerals Present: Sphalerite, chalcopyrite, molybdenite, bornite, pyrite.

Development: 5 diamond drill holes totalling 1676 feet drilled by D.R. Martin in 1955. In 1962 6 diamond drill holes totalling 1675 feet drilled by Marboy Mines Ltd.

Geology: Fine-grained disseminated mineralization occurs in east-trending shear zone in sediments and volcanics. Shear zone is reported to be about 400 feet wide and 2 miles long.

References: O.D.M., resident geologist, Sault Ste. Marie, files. O.D.M., Map 2108.

Marboy Mines Ltd.

Location: Northwest corner of Township 23, Range 10, District of Algoma. 1 mile east of Goulais River Road, Claim S.S.M. 61740.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: In 1961 surface exploration and geophysical survey (Canadian Mines Handbook 1962, p. 154).

In 1962 2 diamond drill holes totalling 421 feet by Marboy Mines Ltd.

Geology: Disseminated molybdenite mineralization occurs in east-trending shear zone in sediments. Shear zone is reported to be 400 feet wide and 2 miles long.

References: O.D.M., Map 2108.
O.D.M., resident geologist, Sault Ste. Marie, files.

TOWNSHIPS 27 AND 28, RANGE 13

Tribag Mining Co. Ltd.

Location: Townships 27 and 28, Range 13, District of Algoma; Lat. 47°11', Long. 84°32'.

Minerals Present: Chalcopyrite, molybdenite, sphalerite, galena, scheelite, pyrite and silver.

Development: Discovered in 1954 by Aime Breton of Wawa. In 1955, Sylvanite Gold Mines Ltd. drilled 8,331 feet in 21 holes. In 1961, 3 holes totalling 1,520 feet were diamond drilled. Tribag Mining Company Ltd. acquired the property in 1962 and to the end of January, 1966, carried out 160,000 feet of drilling and a shaft has been sunk to 1,247 feet establishing 7 levels. More than 14,000 feet of lateral development was done. Control and management were taken over by Teck Mining Corp. in 1966. In May, 1967, the property became a copper producer. No molybdenite is presently recovered.

Geology: The Tribag property straddles the volcanic-granite contact along which 5 known breccia zones occur. The breccia zones are of economic importance, for it is within them that the copper deposits of the property are found. Each of the breccia zones is associated with 1 or more lineaments which, in most cases, are known to represent faults.

The largest breccia zone, in surface dimensions, is known as the East breccia zone, and measures 2,000 feet by 1,000 feet. Located 1½ miles to the southwest is the West breccia zone, which is about 2,000 feet long by 700 feet wide at surface. Limited diamond-drilling in these zones, and a short adit in the East breccia zone, have disclosed economically interesting values in copper and molybdenum.

The principal copper deposit occurs in the Breton breccia zone, located ½ mile north of the West zone.

Ore reserves in March, 1967 consisted of 600,000 tons grading 2.2 percent copper. (Northern Miner, March 30, 1967).

References: Blecha (1965 p. 321-326).
Giblin (1966 p. 4-7).
O.D.M. Map 2018.
O.D.M., resident geologist, Sault Ste. Marie, files.

TOWNSHIP 28, RANGE 13

Inglis

Location: Township 28, Range 13, District of Algoma; Lat. 47°06', Long. 84°29'. Claim S.S.M. 62207.

Minerals Present: Molybdenite, chalcopyrite, pyrite, pyrrhotite.

Development: 14 drill holes totalling 661 feet in 1956. Originally owned by M.O. Inglis, currently owned by Tribag Mining Co. Ltd.

Geology: Molybdenite in quartz stringers in mafic gabbro and diorite.

References: O.D.M., Map 2108.
O.D.M., resident geologist, Sault Ste. Marie, files.

TOWNSHIP 28, RANGE 23

Peters-Quilty

Location: Township 28, Range 23, District of Algoma. Claim S.S.M. 12680.

Minerals Present: Molybdenite.

Development: 1936-39; test pits and trenches.
1939; sampled by Falconbridge Mines Ltd.
1943; trenching and sampling by Deep Lake Gold Mines Ltd.
1958; trenching and 3 drill holes totalling 2000 feet by Billiton Company Ltd. of Holland.
1959; one diamond drill hole of 383 feet.
1964; mapped by Algoma Central Railway.
The property is owned (1967) by Pax International Mines Ltd.

Geology: The property lies along the western margin of a large granite batholith. Molybdenite occurs in narrow, irregular quartz veins in a zone reported to be 20 to 100 feet in width, extending for 2,000 feet. The mineralization is said to occur as disseminations in the quartz along the walls of the veins, and to some extent in the enclosing granite.

Dimensions and Grade: In 1939, 52 channel samples by Falconbridge averaged 0.192 percent MoS_2.
In 1943, 4 bulk samples assayed in Mines Branch in Ottawa returned 2.65, 4.42, 1.96 and 7.37 percent MoS_2.
In 1959 a 40-foot section of drill core averaged 0.02 percent MoS_2 and a 10-foot section 0.09 percent MoS_2.

References: Vokes (1963, p. 82).
O.D.M., resident geologist, Sault Ste. Marie, files.

TOWNSHIP 28, RANGE 24

Regnery Metals

Location: Northwest shore of Hawk Lake, 2.8 miles from Hawk Junction, Township 28, Range 24, District of Algoma; Lat. 48°02', Long. 84°35'.

Minerals Present: Molybdenite, chalcopyrite, pyrite, (beryllium has been reported).

Development: The property was operated from 1937 to 1940 by Walter Regnery and partners under the name of Regnery Metals. Development included a 45-degree shaft to 243 feet with levels at incline depths of 92 feet and 230 feet. 7 holes were diamond drilled from surface totalling 1821 feet and 15 holes totalling 1487 feet were drilled from underground. 2660 feet of underground development was completed. International Ranwick Ltd. took over the property in 1958 and dewatered the shaft and resampled the underground workings.

Geology: Rocks in the area consist of a granite batholith cut by numerous mafic dikes consisting of diabase, lamprophyre and diorite. A set of north-south dikes is spaced 40 to 100 feet apart and the granite between them is highly fractured and locally filled with quartz and calcite stringers that carry molybdenite. Fine-grained molybdenite also forms thin seams in the fractured granite.

Dimensions and Grade: On the first level a weighted average for 410 feet of drifting at a width of 3.8 feet was 0.11 percent MoS_2. Tonnage outlined if the veins extended 100 feet vertically was 13,000 tons. (Report of International Ranwick Ltd., O.D.M., files, Sault Ste. Marie). Estimates of 113,000 tons grading 1.25 percent molybdenum were made by previous operators.

References:
Eardley-Wilmot (1938, p. 17).
Vokes (1963, p. 81).
O.D.M., resident geologist, Sault Ste. Marie, files.

TOWNSHIP 31, RANGE 24

Molybdenite Lake

Location: Southeast side of Molybdenite Lake, Township 31, Range 24, District of Algoma; Lat. 48°04', Long. 84°58'.

Minerals Present: Molybdenite, pyrite.

Development: Some development was done on the property prior to 1905. In 1939, trenching and 4 drill holes totalling 600 feet were completed by Superior Molybdenum Company Ltd. In 1958, the property was examined by International Ranwick Ltd. Geological and magnetometer surveys were completed in 1964 by D.P. Singh of Sault Ste. Marie. International Nickel drilled 1,444 feet on claims S.S.M. 64362 and 64363, in 1965.

Geology: Quartz-rich granite intrudes metavolcanics on the property. A zone of quartz veins trending northwest fill fractures in the granite. The zone is about 35-50 feet wide and about 250 feet long. Molybdenite occurs in the form of fine flakes along the contacts of the veins and extend a few inches into the granite. Faulting and fracturing in the area may have been the controlling factor in locallizing the mineralization.

References: Vokes (1963, p. 81), Parsons (1917, p. 305). O.D.M., resident geologist, Sault Ste. Marie, files.

TOWNSHIP 32, RANGE 23

Michipicoten Tungsten

Location: Township 32, Range 23, District of Algoma; Lat. 47°59', Long. 85°12'.

Minerals Present: Scheelite, molybdenite, pyrite.

Development: Geological mapping, 52 drill holes totalling 2242 feet and a large amount of trenching were done in 1952 at which time the property belonged to Louis Moyd of Bancroft, Ontario.

Geology: Granitic rocks are hosts to quartz-scheelite veins containing molybdenite.

References: O.D.M., resident geologist, Sault Ste. Marie, files.

DISTRICT OF ALGOMA

Miscellaneous Occurrences

Location	References	Remarks
Ermine twp., Kabinakagami Lake.	Maynard (1929, p. 125)	3-inch pegmatite dikelet in schist
One mile north of mileage 96½ on C.N.R. west from Foleyet	Maynard (1929, p. 125)	Pegmatite dike in schist
2½ miles south of mileage 102 on C.N.R. west from Foleyet	Maynard (1929, p. 125)	Pegmatite dike in schist
Hawkins twp., near Langdon on Algoma Central Railway	Maynard (1929, p. 125)	Pegmatite dike
Havilland twp., Lat. 46°51' Long. 84°28'	Logan (1863, p. 700)	Quartz veins in mafic gneiss and schist
Twp. 25 R. 18, claim S.S.M. 75337	A.C.R. Black Spruce - Kinniwabi Lakes Map	
Twp. 25 R. 21, Lat. 47°43' Long. 84°14'	O.D.M. resident geologist, Sault Ste. Marie, files	Chalcopyrite and molybdenite in sheared greenstone
Twp. 26 R. 15, Big Pike Lake	A.C.R. Batchewana - Hubert Map	Quartz vein
Twp. 26 R. 20, Lat. 47°42' Long. 84°16'	A.C.R. Black Spruce - Kinniwabi Lakes Map	Quartz vein in granitic gneiss
Twp. 27 R. 23, Shekwamkwa River	A.C.R. Black Spruce - Kinniwabi Lakes Map	Quartz vein in granitic gneiss
Twp. 30 R. 18, Lat. 47°35' Long. 84°50'	A.C.R. Old Woman Lake - Michipicoten Bay Map	Quartz vein in volcanics and sediments
Twp. 31 R. 26, Lat. 48°10' Long. 85°00'	A.C.R. Mishibishu - Pokei Lakes Map	Syenite dike with minor molybdenite
Twp. 32 R. 23, (Fenlon claims)	Little (1959, p. 169)	Molybdenite in tungsten - quartz vein
Twp. 48 R. 27, (Cline Lake Mines)	Little (1959, p. 168-169)	Minor molybdenite in gold-bearing quartz vein
Strickland twp., Lat. 48°46' Long. 84°53'	Fenwick (1967, p. 13)	Minor molybdenite in basic intrusive rock
Twp. 130, southern part	Moore and Armstrong (1943, p. 17)	MoS_2 in quartz veins cutting granite.
Twp. 138, south-east corner (C. Slabodian)	O.D.M. Map 2032	MoS_2 in granite gneiss inclusions.

CARLETON COUNTY

MARCH TOWNSHIP

March Township, Concession 2, Lot 6

Location:	Lot 6, concession 2, March township, Carleton county.
Minersls Present:	Molybdenite.
Development:	In the late 1890's, a small pit was dug by C.W. Willimott of the G.S.C. to obtain mineralogical specimens of molybdenite.
Geology:	Molybdenite occurs in a pegmatite dike cutting crystalline limestone.
References:	Walker (1911, p. 44). Parsons (1917, p. 304).
Remarks:	Of mineralogical interest only.

DISTRICT OF COCHRANE

Miscellaneous Occurrences

Location	References	Remarks
Beattv twp., con. 1, lot 4	Parsons (1917, p. 289) Vokes (1963, p. 84)	Molybdenite occurs in a gold-quartz vein in greywacke
Chipman twp., Pine Lake	Hopkins (1918, p. 197)	Molybdenite
Playfair twp., con. 4, lot 9	Wright (1922, p. 20)	Occurs in quartz-calcite veins with pyrite and chalcopyrite
Rickard twp., con. 4, lot 7	Kindle (1936, p. 34) Vokes, (1936, p. 84)	Molybdenite occurs in gold-silver-quartz veins
Steele twp., con. 4, lot 9 (McLellan)	Lumbers (1962, p. 45)	Molybdenite in quartz-rich pegmatite in volcanics
Steele twp., con. 4, lot 5	Lumbers (1962, p. 29)	Pegmatite in quartz monzonite
Steele twp., con. 4, lots 10 and 11 (Dukes)	Lumbers (1962, p. 45) Vokes (1963, p. 84)	MoS_2 in quartz-rich pegmatite in a large shear zone. Pits and trenches in 1934 and 1937
Tisdale twp., McIntyre Porcupine Mines Ltd.	Ferguson et al.(1964, p. 91)	Minor molybdenite in gold ore
Tisdale twp., West Dome Lake Mine	Burrows (1924, p. 53) Vokes (1963, p. 84)	Minor molybdenite in gold ore

FRONTENAC COUNTY

OLDEN TOWNSHIP

Smith

Location: Lot 6, concession 6, Olden township, Frontenac county.

Minerals Present: Molybdenite.

Development: A pit 20' x 4' x 8' sunk in 1916. In 1917 two shipments of ore were sent to the Mines Branch, Ottawa; May 1917, 1000 lbs. contained 0.27 percent MoS_2 and in June, 1917, 150 lbs contained 0.6 percent MoS_2.

Geology: Molybdenite occurs in a hornblendic rock adjacent to granite.

References: Eardley-Wilmot (1925, p. 65),
Harding (1947, p. 89),
Volkes (1963, p. 168).

MacDonnell

Location: NW¼, lot 7, concession 6, Olden township, Frontenac county.

Minerals Present: Molybdenite, pyrite.

Development: In 1915, G.M. MacDonnell sunk a pit from which 238 lbs. of ore assaying 0.4 percent MoS_2 was sent to the Mines Branch, Ottawa. In 1957, Corval Corporation Ltd. acquired 7 contiguous claims in Concession 6, lot 7, Concession 7, lot 7 and Concession 7 part of lot 8, which took in the original property of Mr. MacDonnell. This company geologically and geochemically surveyed the area primarily for copper.

Geology: Molybdenite occurs with pyrite and pyroxene in a pegmatitic contact zone between limestone and granite.

References: Harding (1947, p. 89).
O.D.M., resident geologist, Toronto, files.

FRONTENAC COUNTY

Miscellaneous Occurrences

Location	References	Remarks
Hinchinbrooke twp; con. 2, lot 4. (Godfrey)	Harding (1947, Map 1947-5)	In 1934, 2 pits sunk on pyrite, pyrrhotite, molybdenite-bearing pegmatite.
Hinchinbrooke twp; con. 3, lot 22. (Clow)	Harding (1947, p. 60)	
Hinchinbrooke twp; con. 8, lot 26, SW¼. (Sills)	Harding (1947, p. 90)	Small amounts of molybdenite occur in pegmatite dike cutting granite gneiss.
Hinchinbrooke twp; con. 10, lot 18, SE¼. (Drader)	Harding (1947, p. 90)	Molybdenite occurs in a lens of pegmatite cutting granite gneiss.
Kaladar twp; con. 2, lot 13, NE¼. (Marisette)	Harding (1944, p. 72)	Molybdenite occurs in a pegmatite dike cutting granite gneiss.
Kennebec twp; con. 1, lots 14, 15.	Harding (1944, p. 74)	Molybdenite occurs in quartz-rich pegmatite.
Miller twp; northeast range, lot 5. (Kring)	Walker (1911, p. 44) Parsons (1925, p. 305)	1901, 4 pits, mineralogical interest only.
Olden twp; con. 4, lot 19, SW¼. (Gray)	Harding (1947, p. 89)	A few scattered flakes of molybdenite in greywacke.
Olden twp; con. 7, lot 2, SW¼. (Silver)	O.D.M. resident geologist, Toronto, files.	2 drill holes totalling 75 feet in serpentine containing spotty low grade mineralization.
Olden twp; con. 9, lot 24, E½. (Avery)	Harding (1947, p. 90)	Molybdenite in limestone near granite intrusion.

HALIBURTON COUNTY

CARDIFF TOWNSHIP

Orr-Kidd

Location: Lot 11, concession 5, Cardiff township, Haliburton county.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: In 1914 the property was staked by Mr. Kidd who made an open cut 55' x 4' x 5' deep from which 50 lbs. of molybdenite concentrate was produced.

Geology: Molybdenite occurs in small pegmatite dikes cutting gneiss.

References: Parsons (1917, p. 294), Satterly (1943, p. 60-61), Hewitt (1957, p. 48), Vokes (1963, p. 140).

Mooney

Location: N½, lot 18, concession 9, Cardiff township, Haliburton county.

Minerals Present: Molybdenite, pyrite, pyrrhotite, fluorite.

Development: In 1917, W.E. Joiner purchased the property from J. Mooney for Paudash Lake Molybdenum Co. who in 1917 sunk 3 large pits from which several hundred pounds of ore was sent to the United States.

Geology: Large flakes of molybdenite occur in a quartz-rich pegmatite dike cutting hornblende gneiss.

Dimensions and Grade: Not reported.

References: Satterly (1943, p. 63), Hewitt (1957, p. 48).

Evans, O'Brien or Treasure Hill

Location: N½, lot 11, concession 10, Cardiff township, Haliburton county.

Minerals Present: Molybdenite, pyrrhotite, pyrite.

Development: In 1907 the property was staked by Mr. Evans and a shaft 35 feet deep was sunk. In 1913 M.J. O'Brien optioned the property and in 1914 Messrs. Robertson and Crichton obtained the property. Between 1907 and 1914 development consisted of two open cuts, a shaft 7 by 9 feet, 45 feet deep. 150 tons of ore were treated and 1 ton of concentrate was shipped to Toronto.

In 1955, Pickering Metals Ltd. optioned the property as part of a larger area covering concessions 9-10, parts of lots 11-13. A magnetometer and scintillometer survey were performed and a geological survey with diamond drilling (4 holes = 2,109 feet) by Pickering Metals Ltd. who were apparently primarily interested in the property as an uranium prospect.

Geology: Molybdenite occurs in metamorphic pyroxenite at the contact between granite and marble.

Dimensions and Grade: Not reported.

References: Parsons (1917, p. 294), Eardley-Wilmot (1925, p. 68-69), Satterly (1943, p. 61), Hewitt (1957, p. 48-49), Vokes (1963, p. 141), O.D.M., resident geologist, Toronto, files.

Brough Lake

Location: Lot 14, concession 10, Cardiff township, Haliburton county.

Minerals Present: Molybdenite, pyrite.

Development: In 1937 Brough Lake Molybdenite Ltd. did stripping and trenching over a length of 660 feet. An unknown amount of drilling was also done.

Geology: Molybdenite occurs in a hornblende granite pegmatite sill, 2-7 feet wide, intruding biotite-hornblende gneiss.

References: Satterly (1943, p. 61-63), Hewitt (1957, p. 48.

Joiner

Location: N½, lot 3, concession 20, Cardiff township, Haliburton county.

Minerals Present: Molybdenite.

Development: Exploration in 1917 by W.E. Joiner. In 1919 to 1922, Cardiff Molybdenite Mines Ltd. and later United Molybdenum Corp. Ltd. carried out some trenching and a 30-ton sample containing 0.31 percent MoS_2 and 600 pounds containing 0.53 percent MoS_2 were sent to the Mines Branch at Ottawa for testing. In 1935 the property belonged to Shallberg Molybdenite Co. and in 1936 Ventures Ltd. mapped and sampled the property. Cardiff Uranium Mines Ltd. drilled 4 holes on the property in 1952. New Far North Exploration drilled 6 holes totalling 1657 feet in 1965. Georgia Lake Mines drilled 11 holes on the property in 1966.

Geology: The mineralization occurs in an area of intercalated paragneiss and limestone intruded by tongues of monzonite and pegmatite. Molybdenite occurs in all rock types but appears to be concentrated at or near the intrusive contacts.

Dimensions and Grade: 0.22 percent MoS_2 across 8.5 feet over a strike length of 500 feet. (Northern Miner, January 12, 1967).

References: Eardley-Wilmot (1925, p. 69-71); Satterly (1943); Hewitt (1957); Vokes (1963, p. 135-138); Northern Miner (Sept. 22, 1966) (Dec. 8, 1966) (Jan. 12, 1967); O.D.M., resident geologist, Toronto, files.

HARCOURT TOWNSHIP

Harcourt Mine

Location: Lots 2, 3, and 4, concession 1, Harcourt township, Haliburton county.

Minerals Present: Molybdenite, pyrrhotite, pyrite.

Development: During years 1891 to 1901 operated by Canadian Land and Immigration Company with work consisting of a large open cut and 2 shallow shafts in lot 3. In 1911, 50 pounds of flake molybdenite was removed for experimental purposes.

Geology: Molybdenite occurs in sulphide veins in pyroxenite.

Dimensions and Grade: Not of economic importance.

References: Walker (1911, p. 40, 41), Eardley-Wilmot (1925, p. 71-72), Satterly (1943, p. 65-66), Vokes, (1963, p. 139).

LUTTERWORTH TOWNSHIP

Hamilton Molybdenum Alloys Co. Ltd.

Location: Lot 23, concession 5, Lutterworth township, Haliburton county.

Minerals Present: Molybdenite.

Development: In 1916, Hamilton Molybdenum Alloys Co. Ltd. sunk a 6 by 12-foot shaft 30 feet deep.

Geology: Molybdenite occurs in pegmatite dikes, 25-50 feet wide, cutting crystalline limestone.

References: Miller (1904, p. 57),
Eardley-Wilmot (1925, p. 72, 73).

MONMOUTH TOWNSHIP

Lillico (Ontario Molybdenite Co.)

Location: Lots 14, 15, concession 12, Monmouth township, Haliburton county. Claim E.O. 32762.

Minerals Present: Molybdenite, pyrrhotite, pyrite, mica.

Development: In 1917, Ontario Molybdenite Co. opened several large cuts and pits along with some diamond drilling. In 1917-1918, 157½ tons of ore were shipped to the Mines Branch, Ottawa from which 1,797 pounds of MoS_2 was recovered.

In 1966, Georgia Lake Mines Ltd. acquired the property as part of 30 contiguous claims in the area. The company had magnetic, induced polarization and geochemical surveys done on the area.

Geology: Molybdenite occurs in a flat-lying pegmatitic body.

Dimensions and Grade: Not reported.

References: Eardley-Wilmot (1925, p. 73, 74),
Satterly (1943, p. 66, 67),
Northern Miner (July 28, 1966) and (September 8, 1966).

Gibson

Location: Lot 13, concession 13, Monmouth township, Haliburton county. Claims E.O. 32127, 32128.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: In 1916, G. Padwell opened a quarry face 50 feet long, 10 feet high from which 1,300 pounds of ore grading 3.85 percent MoS_2 was shipped.

In 1939, Canadian Molybdenite Mines Ltd., enlarged the quarry to 130 by 120 feet.

In 1954-1955, Roford Mines Ltd., drilled 6 holes totalling 1,677 feet. No MoS_2 was reported.

In 1966, Georgia Lake Mines Ltd. acquired the property as part of 30 contiguous claims in the area. The company had magnetic, induced polarization and geochemical surveys done on the area.

Geology: Molybdenite occurs in flat-lying hornblende gneiss which is cut by pegmatite dikes.

References: Parsons (1917, p. 307),
Eardley-Wilmot (1925, p. 74),
Satterly (1943, p. 67),
Northern Miner (July 28, 1966) and (September 8, 1966),
O.D.M., resident geologist, Toronto, files.

Wilberforce Molybdenite

Location: N½, lot 33, concession 14, lots 32, 33, concession 15, Monmouth township, Haliburton county.

Minerals Present: Molybdenite, pyrite, pyrrhotite, fluorite, titanite.

Development: In 1918, Wilberforce Molybdenite Co. Ltd. did considerable surface work in the area. In 1965, New Far North Exploration Ltd. acquired the property as part of 26 contiguous claims in the area on which the company did a geochemical survey for molybdenum.

Geology: Molybdenite occurs in a mineralized pyroxenite contact zone between granite and crystalline limestone.

References: Eardley-Wilmot (1925, p. 114),
Satterly (1943, p. 68, 69),
Northern Miner (May 20, 1966, p. 14),
O.D.M., resident geologist, Toronto, files.

Remarks: See Dwyer Property and American Molybdenite Ltd., Monmouth twp.

Padwell

Location: Lot 11, concession 15, Monmouth township, Haliburton county.

Minerals Present: Molybdenite, pyrrhotite, pyrite.

Development: In 1916, G. Padwell sunk a pit 70 by 30 feet and 15 feet deep from which was shipped 55½ tons grading 1.4 percent MoS_2 to the Mines Branch, Ottawa, and 62 tons of 1.0 percent MoS_2 to the International Molybdenum Co. at Renfrew.

In 1966, Georgia Lake Mines Ltd., acquired the property as part of 30 contiguous claims in the area. The company had magnetic, induced polarization and geochemical surveys as well as 4 diamond drill holes totalling 428 feet done on the property.

Geology: Molybdenite occurs in a flat-lying mineralized pyroxenite zone at the contact between limestone and syenite gneiss.

References: Parsons (1917, p. 307),
Eardley-Wilmot (1925, p. 74-75),

Satterly (1943, p. 67, 68),
Vokes (1963, p. 134, 135),
Northern Miner (June 9, 1966, and October 6, 1966),
O.D.M., resident geologist, Toronto, files.

American Molybdenite

Location: Lot 32, concessions 15 and 16, Monmouth township, Haliburton county.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: In 1917, American Molybdenite Ltd., shipped 58.6 tons of material grading 0.20 percent MoS_2 to the Mines Branch, Ottawa and 27.2 tons of 0.39 percent MoS_2 to Renfrew from a quarry on the property. A total of 320 pounds of molybdenite was recovered.

In 1918, Molybdenum Products of America optioned the property and installed a 125-ton concentrator but in 1919, the property reverted back to American Molybdenite Ltd.

In 1965, New Far North Exploration Ltd. acquired the property as part of 26 contiguous claims in the area. A geochemical survey and 2 diamond drill holes totalling 568 feet were completed.

Geology: Molybdenite occurs in a mineralized pyroxenite contact zone between granite and crystalline limestone.

Dimensions and Grade: Low grade.

References: Eardley-Wilmot (1925, p. 75-76),
Satterly (1943, p. 69),
Northern Miner (May 20, 1966, p. 14),
O.D.M., resident geologist, Toronto, files.

Remarks: Considered to be a continuation of the Wilberforce Molybdenite occurrences.

New Far North Exploration Ltd.

Location: Lot 31, concession 17, Monmouth township, Haliburton county. Claims EO 31766 and 31767.

Minerals Present: Molybdenite.

Development: In 1965, New Far North Exploration Ltd. acquired the property as part of 26 contiguous claims in the area. The company had a geochemical survey done on tbe area and 13 diamond drill holes totalling 2688 feet.

Geology: Molybdenite occurs in a mineralized pyroxenite contact zone between limestone and granite intrusives.

Dimensions and Grade: Twelve drill holes on claim EO 31767 gave assays ranging from 0.03 to 0.09 percent MoS_2 across widths of 5 to 25 feet. Surface sampling gave assays from 0.05 to 0.44 percent MoS_2 across widths of 30 to 40 feet.

References: New Far North Exploration Ltd., Prospectus, (April 1st., 1966).
O.D.M., resident geologist, Toronto, files.

Remarks: Part of group of claims worked by New Far North Exploration Ltd. See also Dwyer, American Molybdenite, and Wilberforce Molybdenite.

Dwyer

Location: Lot 32, concession 17, Monmouth township, Haliburton county.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: In 1921, P.J. Dwyer did considerable surface work. In 1940, minor trenching and in 1942 a few short holes were drilled. In 1965, New Far North

Exploration Ltd. acquired the property as part of 26 contiguous claims in the area. The company did a geochemical survey of the area.

Geology: Molybdenite occurs in a mineralized pyroxenite contact zone between granite and crystalline limestone.

Dimensions and Grade: Very low grade.

References: Eardley-Wilmot (1925, p. 75),
Satterly (1943, p. 69-70),
O.D.M., resident geologist, Toronto, files.

Remarks: See Wilberforce Molybdenite and American Molybdenite, Monmouth township.

HALIBURTON COUNTY

Miscellaneous Occurrences

Location	References	Remarks
Cardiff twp., con. 9, lot 7.	Hewitt (1957, p. 48)	Molybdenite occurs in pegmatite.
Cardiff twp., con. 9, lot 6.	Hewitt (1957, p. 48), Parsons (1917, p. 294)	Molybdenite in pegmatite.
Cardiff twp., con. 11, lot 12. (Matthews-McMahon)	Eardley-Wilmot (1925, p. 68), Satterly (1943, p. 63)	Molybdenite associated with pyrite, pyrrhotite in pyroxenite. 30 pounds of concentrate sold in 1915.
Cardiff twp., con. 11, lot 27, N½. (Dixon-Hunter)	Satterly (1943, p. 63)	Spotty molybdenite in narrow pegmatite.
Cardiff twp., con. 14, lot 18. (Dickson-Riddel)	Satterly (1943, p. 63)	Disseminated pyrrhotite and molybdenite in paragneiss.
Glamorgan twp., con. 5, lot 32. (British Molybdenite)	Satterly (1943, p. 64-65)	Minor molybdenite in greenish-white siliceous rock.
Glamorgan twp., con. 7, lots 1 to 5. (Simmonds)	M.R.D. files, Canadian Mines Handbook (1966-67, p. 333)	Molybdenite and chalcopyrite in pegmatitic rocks. Trenching and geophysical surveys.
Glamorgan twp., con. 13, lot 34.	Satterly (1943, p. 65)	Minor molybdenite in pegmatite.
Lutterworth twp., con. 2, lots 7 and 8. (Hopkins)	Satterly (1943, p. 66), Vokes (1963, p. 143)	MoS_2 in quartz vein in gneiss.
Lutterworth twp., con. 5, lot 23.	Miller (1904, p. 57), Satterly (1943, p. 66)	MoS_2 as flakes and crystals in limestone
Lutterworth twp., con. 10, lot 7.	Walker, (1911, p. 40), Parsons (1917, p. 302)	2 quartz veins with little MoS_2.
Monmouth twp., con. 11, lot 12. (Anderson)	Eardley-Wilmot (1925, p. 113), Satterly (1943, p. 66)	Minor MoS_2 in gold-silver ore, 30 foot shaft.
Monmouth twp., con. 14, lot 10. (Madill)	Eardley-Wilmot (1925, p. 74), Satterly (1943, p. 67)	A few small pits.
Monmouth twp., con. 15, lots 10 and 12. (Affenby-Henery)	Eardley-Wilmot (1925, p. 114), Satterly (1943, p. 67)	MoS_2 in pyroxenite.
Monmouth twp., con. 15, lot 17. (Johnston)	Eardley-Wilmot (1925, p. 114), Satterly (1943, p. 67)	Minor MoS_2 in pyrite zone in gneiss.
Monmouth twp., con. 16, lot 31. (MacDougall)	Satterly (1943, p. 142), Vokes (1963, p. 142)	Minor MoS_2 in pyroxene-calcite rock.

HASTINGS COUNTY

Miscellaneous Occurrences

Location	References	Remarks
Dungannon twp., con. 13 and 14, lot 25.	Parsons (1917, p. 295), Adams and Barlow (1910, p. 254)	
Dungannon twp., con. 16, lot 5, N½. (Stroughton)	Eardley-Wilmot (1925, p. 76-77), Thomson (1943, p. 61)	Pegmatite in gneiss and limestone, 28 pounds MoS_2 produced in 1918.
Faraday twp., con. A, lot 21. (Keller)	Hewitt (1957, p. 30)	MoS_2 in pyroxenite.
Faraday twp., con. 15, lot 31. (Basin)	Satterly (1957, p. 76-77)	Minor MoS_2 associated with radioactive minerals, property drilled in 1953.
Herschel twp., con. 4, lots 27 and 28. (Williams)	Eardley-Wilmot (1925, p. 77), Thomson (1946, p. 66)	
Herschel twp., con. 5 and 6, lots 30, 31.	Thomson (1943, p. 62), Vokes (1963, p. 144)	MoS_2 disseminated and stringers in pyroxenite.
Monteagle twp., con. 1, lot 6.	Parsons (1917, p. 307), Adams and Barlow (1910, p. 357)	MoS_2 in quartz vein.
Monteagle twp., con. 6, lots 26 and 27. (Spence)	Walker (1911, p. 43), Parsons (1917, p. 307)	In biotite gneiss and pyroxenite.
Monteagle twp., con. 7, lots 18 and 19. (McDonald)	Osborne (1930, p. 41), Vokes (1963, p. 145)	MoS_2 as accessory mineral in pegmatite with radioactive minerals.
Monteagle twp., con. 13, lots 23 and 24. (National Graphite)	Parsons (1917, p. 307), Vokes (1963, p. 145)	MoS_2 with graphite and pyrrhotite in limestone.

DISTRICT OF KENORA

BELANGER TOWNSHIP

Rexdale Mines Ltd.

Location: Claims extend from Fredart Lake in Belanger twp. west to Snakeweed Lake, District of Kenora. The main molybdenite showings occur on claims K.R.L. 53045 and 53450 and 53451 and also on K.R.L. 53366 and 53364.

Minerals Present: Molybdenite, chalcopyrite, pyrite.

Development: Extensive prospecting, trenching and stripping. Magnetometer and electromagnetic surveys and 19,302 feet of AX drilling in 45 holes had been completed by January, 1967 mainly on base metal occurrences on the property.

Geology: The property includes a volcanic-sediment assemblage enclosed within a regional granitic complex. The mineralization occurs within sheared porphyritic grey granite with greenstone inclusions. Molybdenite occurs with sericite along the contact of quartz veinlets, as disseminations throughout the granite and as coatings on joint surfaces in the granite.

Dimensions and Grade: Main molybdenite showing has been trenched for 260 feet and a maximum width of 85 feet. The best assay from bulk sampling was 0.56 MoS_2 and over 12 feet (company prospectus).

References: Company report by B.A. Edmond, September, 1966.
Prospectus of Rexdale Mines Ltd.
Fenwick (1966, Map P.349).

Remarks: Property was fromerly held (1955-59) by Split Rock Mines Ltd. and later by Queensland Explorations Ltd.

ECHO TOWNSHIP

Pidgeon Molybdenum Mines Ltd.

Location: Lots 8 and 9, concession 5, Echo township, District of Kenora. Claims Pa 14051 and 14194 hold main showings.

Minerals Present: Molybdenite, ferromolybdite, chalcopyrite, pyrite, bismuthinite, magnetite, fluorite.

Development: Staked in 1954 by G.L. Pidgeon who optioned the property to Detta Minerals Ltd. that year. They did stripping, trenching, 2 drill holes totalling 350 feet and drove an adit 73 feet long from which a 255-ton bulk sample was obtained. The adit was completed to 114 feet in 1956. In 1957-58 Rio Canadian Exploration Ltd. drilled 21 holes totalling 2757 feet. A magnetometer survey and 10,800 feet of BX drilling was done in 1965 and one hole (1320 feet) was drilled on claim Pa 33573 in 1966 to test the downward plunge of the mineralization.

Geology: Quartz veins and pegmatitic veins form a stockwork along the east margin of the Lateral Lake granite stock with molybdenite mineralization localized to that part near the granite-sediment contact. Mineralization is usually confined to the veins or wallrock associated with them. Some aplite stringers may also contain molybdenite.

Major vein systems in the stockwork have 2 directions:

(a) strike north-northeast, dip 50°-60° NW.
(b) strike northeast to east, dip vertical.

North to northeast system where defined does not show ore values over appreciable widths. The east to northeast system where defined shows better grade mineralization.

Dimensions and Grade Bulk sampling from the adit reveals 2 sections of molybdenite mineralization. From the portal to 23.1 feet assayed 0.24 percent MoS_2 and from 42.0 to 67.3 feet assayed 0.57 percent MoS_2 over 25.3 feet (Satterly 1960, p. 30).

References: Satterly (1960, p. 29-30),
Vokes (1963, p. 73-78),
H.I. Hall, personal communication.

Denison Mines Ltd.

Location: Lots 9 and 10 (part of), concessions 4 and 5, Echo township, District of Kenora. Claims Pa 31876 to 31888, property adjoins Pigeon Molybdenum Mines Ltd. to the west.

Minerals Present: Molybdenite, minor pyrite, pyrrhotite, chalcopyrite.

Development: 12 diamond drill holes in 1963 totalling 4118 feet.

Geology: Mineralization is confined to the granite-sediment contact on the north and south margins of the Lateral Lake stock.

Dimensions and Grade: Not reported.

References: Diamond drill logs on file at mining recorder's office, Sioux Lookout.
Denison Mines Ltd., personal communication.

De Coursey-Brewis Minerals Ltd.

Location: Lot 11, concessions 4 and 5, Echo township, District of Kenora.

Minerals Present: Molybdenite, chalcopyrite, pyrite.

Development: In 1958, drilled 5 holes aggregating 2007 feet on claims Pa 17013 and 17007. All claims have lapsed.

Geology: Molybdenite occurs in granite and pegmatite cutting hornblende schist along granite-sediment contact.

Dimensions and Grade: Low grade.

References: K.J. Benner, personal communication. Diamond-drill records, Ontario Dept. Mines, Toronto.

Remarks: Considered to be a continuation of the Pidgeon Molybdenum Mines Ltd. mineralization.

EWART TOWNSHIP

Evenlode Gold Mines Ltd.

Location: East end of High Lake, Ewart township, District of Kenora. N.T.S. 52E/11.

Minerals Present: Molybdenite, chalcopyrite, pyrite.

Development: 1942, 3688 feet of drilling in 21 holes and from 1960 to 1962 a geological survey, bulk sampling and 61 holes totalling 15,797 feet were drilled.

Geology: The property is underlain by sheared quartz porphyry. Three shear zones are occupied by quartz veins containing molybdenite and chalcopyrite. There is very little mineralization in the wallrock.

Dimensions and Grade: Drill indicated ore is 126,000 tons grading 0.68 percent molybdenite with possible ore being calculated at about 650,000 tons. (Davies 1965, p. 51)

References: Vokes (1963, p. 72), Davies (1965, p. 49-51).

REDVERS TOWNSHIP

Markle-McEwan

Location: S½, lot 7, concession 2, Redvers township, District of Kenora. N.T.S. 52K/3.

Minerals Present: Molybdenite.

Development: 2 drill holes totalling 500 feet.

Geology: Molybdenite disseminated in granite and granite gneiss and in quartz veins and pegmatite dikes trending N 60°W.

References: O.D.M., resident geologist, Kenora, files, Vokes (1963, p. 72).

Remarks: Same as Quibell deposits.

Kawashegamuk Lake (Dome Exploration (Canada) Ltd.)

Location: N.T.S. 52F/8, Lat. 49°28', Long. 92°16'. Kawashegamuk Lake, District of Kenora.

Minerals Present: Molybdenite.

Development: In 1965 trenching, geochemical survey, and 3 drill holes totalling 1710 feet.

Geology: Granitic intrusive mineralized with molybdenite-bearing quartz veins.

Dimensions and Grade: None of the material is of ore grade over mining width. (Company report).

References: Campbell Red Lake Mines Ltd. report to shareholders, December, 1966,
M.R.D. files,
O.D.M. assessment file 63A-478, Toronto.

Remarks: Campbell Red Lake Mines Ltd. had a 30 percent participation.

Steep Rock Iron Mines Ltd. (Young Lake).

Location: N.T.S. 52 G/14, 2 miles south of Young Lake, District of Kenora. Claim Pa. 36387.

Minerals Present: Molybdenite, chalcopyrite, pyrite.

Development: Magnetometer and geological survey, trenching and rock sampling in 1966.

Geology: Molybdenite occurs in disseminations, in quartz veins and in joint faces in granite and greenstone.

Dimensions and Grade: An average of 84 samples gave 0.19 percent MoS_2 and 0.03 percent copper (O.D.M. file 63-2048).

References: Vokes (1963, p. 73),
O.D.M. file 63-2048, Toronto.

Steep Rock Iron Mines Ltd. (Beidelman Bay)

Location: N.T.S. 52 G/14, Beidelman Bay, Sturgeon Lake, District of Kenora. Claim Pa. 37553.

Minerals Present: Molybdenite, chalcopyrite, pyrite.

Development: 1966, 4 diamond drill holes totalling 354 feet.

Geology: Disseminated mineralization in silicified and porphyritic feldspar granite.

Dimensions and Grade: Two drill holes averaged 0.028 percent MoS_2 over 83 feet and 0.029 percent MoS_2 over 101.5 feet. (Diamond drill logs submitted for assessment work 1966).

Reference: Diamond drill logs, Mining Recorder's Office, Sioux Lookout.

Remarks: Resembles porphyry copper-molybdenum deposits.

Cochenour-Willans Gold Mines Ltd.

Location: N.T.S. 52 O/3, Bamaji Lake, District of Kenora. Claims Pa 37956, 37957, 37961.

Minerals Present: Molybdenite, chalcopyrite.

Development: Line cutting, mapping and diamond drilling totalling 2576 feet in 12 holes was completed in 1966.

Geology: Molybdenite mineralization with minor chalcopyrite occurs in a system of quartz veins which cut a sheared altered granitic rock. Some molybdenite is also plated on sericitic shear planes in granitic rocks in proximity to the veins.

Dimensions and Grade: Mineralization considered uneconomic.

References: Report to Cochenour-Willans Gold Mines Ltd. by D.A. Hutton.
Diamond drill records, mining recorder's office, Sioux Lookout.

Bear Head Lake Uranium (CAM Mines Ltd.)

Location: N.T.S. 53 C/13, between the southeast end of Favourable Lake and Bear Head Lake, District of Kenora.

Minerals Present: Uranium, molybdenite, pyrite.

Development: In 1955 aerial scintillometer survey with minor trenching and sampling, and in 1956 a geological survey and 9 diamond drill holes by Sigcasco

Explorations Ltd.

In 1957 4 diamond drill holes by New Dickenson Mines Ltd. totalling 1562 feet. Property acquired by CAM Mines in 1967 with extensive development underway.

Geology: Uraniferous, en echelon biotite-rich lenses of pegmatite, quartz and granite gneiss along the contact between biotite granite gneiss on the south and a migmatitic granite gneiss - pegmatite complex on the north. Minor molybdenite and pyrite associated with radioactive mineralization.

References: Northern Miner, (November 16, 1967),
O.D.M., resident geologist, Kenora, files.

DISTRICT OF KENORA

Miscellaneous Occurrences

Location	References	Remarks
Ball twp., Mackintosh Lake, (Stupack - Bruce)	O.D.M., resident geologist, Kenora files, Vokes (1963, p.71)	Pegmatite and quartz veins with pyrite and molybdenite, 4 drill holes in 1963.
Balmer twp. just south of O'Keefe Lake	Norwood, (1940, p.65), Vokes (1963, p.71)	MoS_2 in quartz vein.
Corless twp., Corless Patricia Gold Mines Ltd.	Harding, (1936, p.25), Vokes (1963, p.71)	MoS_2 in gold-quartz veins.
Drayton twp., Island F.P. 61 (McCombe)	Johnston (1967, p.19)	Minor molybdenite in brecciated diorite with chalcopyrite.
Ewart twp., High Lake, Claim K.32306	Davies (1965, p.52)	Quartz veins with MoS_2 in quartz porphyry.
Forgie twp., Gundy Lake	Davies (1965, p.52)	MoS_2 in quartz veins and fractures.
Hartman twp., Con. 5, lot 11	O.D.M. Map P.242, M.R.D. files	MoS_2 in pegmatite in granodiorite.
Todd twp. Red Crest Gold Mines Ltd.	Hurst (1935, p.37), Vokes (1963, p.71)	MoS_2 in gold-quartz veins.
Tustin twp., Lat. 49°54', Long. 93°51'	M.R.D. files Pryslak (1967, p. 16)	Massive pyrrhotite with minor MoS_2 and chalcopyrite.
Webb twp., Lat. 49°55', Long 92°31' (Coates)	Harding (1950, p.26), Parsons (1917, p.297-298)	Molybdenite in pegmatite.
N.T.S. 42 M/12, east side of Reserve Lake	Prest (1942, p.27-28), Vokes (1963, p.71)	MoS_2 in quartz veins cutting granite.
N.T.S. 52 E/9, Sultana Gold Mine	Parsons (1917, p.299), Vokes (1963, p.71)	Accessory mineral in gold-quartz veins.
N.T.S. 52 E/10, Mikado Mine	Bruce (1925, p.3-8), Greer (1930, p.43)	Molybdenite in pegmatitic dike.
N.T.S. 52 E/11, north of High Lake	Greer (1930, p.55), Vokes (1963, p.72)	Sheared and silicified porphyry carrying MoS_2.
N.T.S. 52 F/2, Lat. 49°07', Long 93°00', Vickers Lake	Parsons (1911, p.188), M.R.D. files	Gold prospect with minor MoS_2, 40-foot shaft.
N.T.S. 52 F/3, Greve Lake	Thomson (1934, p.18), Vokes (1963, p.72)	MoS_2 in quartz veins with chalcopyrite.
N.T.S. 52 F/4, Kakagi Lake west end (Noranda)	M.R.D. files	Molybdenite, chalcopyrite, pyrite in shear zone in granite.
N.T.S. 52 F/5, (Kenty Group)	O.D.M., resident geologist, Kenora, files, M.R.D. files	Quartz-carbonate veinlets with MoS_2 in shear zone in volcanics.
N.T.S. 52 F/5, Gold Panner Mine	Burwash (1933, p.80), Vokes (1963, p.72)	Minor molybdenite in gold ore.
N.T.S. 52 F/7, Upper Manitou Lake (E.D. Pidgeon)	Eardley-Wilmot (1925, p.77), Parsons (1917, p.304)	Molybdenite with bismuthinite in pegmatite.
N.T.S. 52 F/7, west of Upper Manitou Lake, (Oro Plata)	Vokes (1963, p.72), M.R.D. files	MoS_2 in quartz veins.
N.T.S. 52 F/10, Dinorwic Lake (Van Houten)	Satterly (1941, p.47), Vokes (1963, p.72)	Minor molybdenite in gold-quartz vein.
N.T.S. 52 F/10, Contact Bay, Wabigoon Lake	Parsons (1917, p.313), Vokes (1963, p.72)	MoS_2 in quartz vein in diorite.

Miscellaneous Occurrences

Location	References	Remarks
N.T.S. 52 G/3, Lat. 49°04', Long. 91°14', Viking Lake	Woolverton (1960), M.R.D. files	Molybdenite occurs in quartz veins in greenstone.
N.T.S. 52 G/5, 7.5 miles south of Ignace, (McClure and Wilson)	Tanton (1938, p.6-7), Satterly (1941, p.61-62)	Molybdenite in quartz veins.
N.T.S. 52 G/5, 1.5 miles south of McNamara Lake (Olson)	Satterly (1941, p.61), Tanton (1938, p.6-7)	Molybdenite in rusty quartz veins.
N.T.S. 52 G/5, Island D250 and west shore of McNamara Lake (Ryan)	Satterly (1941, p.61), Tanton (1938, p.8)	Molybdenite in sugary quartz with massive band of pyrrhotite and pyrite.
N.T.S. 52 J/6, Lat. 50°25', Long. 91°18', (McCombs)	Hudec (1965, p.23)	Molybdenite in massive sulphide zone.
N.T.S. 52 K/1, Lat. 50°04', Long. 92°17'	O.D.M. Map P.336	
N.T.S. 52 L/1, Lat. 50°00', Long. 94°29', (Cameron)	Lang (1952, p.118), Vokes (1963, p.71)	Pegmatite carrying uraninite and molybdenite.
N.T.S. 52 L/2, Lower Kettle Falls	Derry (1930, p.39)	Minor MoS_2 in quartz veins with pyrrhotite.
N.T.S. 52 L/2, Lat. 50°01', Long 94°32', Ena Lake	O.D.M., resident geologist, Kenora, files	Spotty molybdenite in pegmatitic dikes.
N.T.S. 52 O/1, Lat. 51°06', Long. 90°25', Lake St. Joseph	Goodwin (1965, p.34)	MoS_2 occurs with beryl in pegmatite.
N.T.S. 52 O/2, Carpentier Lake	Harding, (1935, p.69), Vokes (1963, p.71)	MoS_2 in pegmatite in granite.
N.T.S. 52 O/4, Slate Falls, Bamadji Lake	Laird (1930, p.22), Wilson (1902, p.19)	Molybdenite in mafic schists.
N.T.S. 52 O/4, Wesleyan Lake (Connell-Williams-Stirret)	Laird (1930, p.22), Harding (1935, p.68 and 73)	MoS_2 in quartz veins with other sulphides.
N.T.S. 52 O/11, Long Lake, Shonia Lake area	Laird (1930, p.18), Vokes (1963, p.71)	MoS_2 in quartz vein.
N.T.S. 53 C/13, Setting Net Lake (Oliver)	Hurst (1929, p.78-81), Vokes (1963, p.71)	MoS_2 in sheared greenstone with other minerals.

LEEDS COUNTY

NORTH CROSBY TOWNSHIP

Merkley

Location: Lot 14, concession 5, North Crosby township, Leeds county.

Minerals Present: Molybdenite.

Development: Two pits were sunk in 1891.

Geology: Molybdenite is associated with granite and syenite, crystalline limestone and pyroxenite.

Dimensions and Grade: Not considered of economic importance.

References: Walker (1911, p. 45), Parsons (1917, p. 308).

LENNOX AND ADDINGTON COUNTY

SHEFFIELD TOWNSHIP

Kellar

Location: Lot 12, concession 13, Sheffield township, Lennox and Addington county.

Minerals Present: Molybdenite.

Development: In 1916, surface work by the O'Brien-Greensfield Co. of Wisconsin resulted in 160 pounds of pure flake molybdenite being extracted.

Geology: Molybdenite occurs along limestone-granite gneiss contact, in a pegmatite dike within the gneiss and as local concentrations within the gneiss.

References: Parsons (1917, p. 311),
Eardley-Wilmot (1925, p. 78),
Vokes (1963, p. 169).

Chisholm

Location: E½, lot 5, concession 14, Sheffield township, Lennox and Addington county.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: In 1904, M. Chisholm mined 600 tons of rock from which 85 tons of picked material was sold in the U.S.A.

In 1915-1917, another large pit was sunk next to Chisholm's mining operation.

An estimated 10,000 tons of rock has been removed and 343 tons of ore has been shipped from which 8,000 pounds of MoS_2 was recovered.

Geology: The molybdenite-bearing zone occurs within limestone surrounded by red granite.

References: Walker (1911, p. 43-44),
Eardley-Wilmot (1925, p. 78-80),
Vokes (1963, p. 169-170).

Wager

Location: Lot 15, concession 16, Sheffield township, Lennox and Addington county.

Minerals Present: Molybdenite.

Development: Several trenches and 3 open cuts in 1915 from which 286 pounds grading 0.89 percent MoS_2 was sent to Mines Branch, Ottawa.

Geology: Molybdenite occurs in quartz-pyroxenite rock between gneiss and crystalline limestone.

References: Eardley-Wilmot (1925, p. 81),
Vokes (1963, p. 170).

LENNOX AND ADDINGTON COUNTY

Miscellaneous Occurrences

Location	References	Remarks
Kaladar twp., con. 2, lot 13, NE¼. (Marisette)	Harding (1942, p. 72), Vokes (1963, p. 169)	MoS_2 in pegmatite in granite gneiss.
Sheffield twp., con. 12, lots 9 and 10. (Calvert)	Eardley-Wilmot (1925, p. 78), Vokes (1963, p. 169)	MoS_2 in quartz-pyroxene rock.
Sheffield twp., con. 15, lot 8. (Spratt)	Parsons (1917, p. 311), Eardley-Wilmot (1925, p. 80-81)	MoS_2 in an oxidized zone between gneiss and limestone.

DISTRICT OF MUSKOKA

Miscellaneous Occurrences

Location	References	Remarks
Monck twp., con. 7, lot 12. (Stead)	Parsons (1917, p. 305-307), Eardley-Wilmot (1935, p. 116)	Molybdenite occurs in gneiss exposed by 2 rock cuts.
Muskoka twp., con. 7, lots 11, 13. (Howell)	M.R.D. files	Molybdenite occurs as veinlets in pegmatite.

DISTRICT OF NIPISSING

STRATHY TOWNSHIP

Barton

Location: Net Lake, Strathy township, District of Nipissing. Claims H.F.3, T.55135, T.55136 and T.55480-T.55488 inclusive (1967).

Minerals Present: Molybdenite, chalcopyrite, silver, gold, (bismuth), pyrite.

Development: Prior to World War I, the property was optioned to J.W. Barton by Gold Reef Company Ltd. In 1906, a 50-foot shaft was sunk and 200 tons of material removed. From 1906-1918, there was erected, a head frame, a camp, hoist, boiler house and pump.

In 1918, 1,216 pounds of material was shipped to Ottawa assaying 8.42 percent MoS_2 from which 94 pounds of MoS_2 was obtained.

In 1956, Aumo Porcupine Mines Ltd. did a self-potential survey for copper and nickel. In 1965 Myteque Mines Ltd. did geological, geomagnetic and electromagnetic surveys plus considerable surface work.

Geology: Molybdenite occurs in angular breccia of basic volcanic rock fragments cemented by quartz, and in quartz veins cutting basic volcanic rock.

References: Walker (1911, p. 48),
Parsons (1917, p. 308),
Eardley-Wilmot (1925, p. 81-82),
Moorhouse (1942, p. 25),
Vokes (1963, p. 99-101).

DISTRICT OF NIPISSING

Miscellaneous Occurrences

Location	References	Remarks
Airy twp., con. 8, lot 4. (Jodouin)	Parsons (1917, p. 287, 288), Eardley-Wilmot (1925, p. 116)	Probably graphite.
Calvin twp., con. 9, lot 27. (Gauthier)	Eardley-Wilmot (1925, p. 81), Vokes (1963 p. 99)	Molybdenite occurs in pyroxenite exposed in a pit 20 feet by 6 feet, 6 feet deep.
Calvin twp., con. 9, lot 31. (Galvin)	Eardley-Wilmot (1925, p. 81)	
Garrow twp., con. 3, lot 10. (Shepherd)	Parsons (1917, p. 295), Vokes (1963, p. 98)	
Kirkpatrick twp., con. 3, lots 1, 2. (Lavallee)	M.R.D. files, Vokes (1963, p. 99)	MoS_2 in quartz veins.
Great Manitou Island, Lake Nipissing	Hoffman (1890, p. 44R), Vokes (1963, p. 99)	MoS_2 and pyrite in quartz-feldspar gangue.

DISTRICT OF PARRY SOUND

Miscellaneous Occurrences

Location	References	Remarks
Christie twp., con. 12, lot 9. (Bloor Mine)	Satterly (1942, p. 48), Vokes (1963, p. 28)	MoS_2 associated with hornblende gneiss limestone and red garnet rock. Not economic.
Conger twp., con. 11, lots 9 and 10. (Blackstone L.)	Ellsworth (1932, p. 175), Vokes (1963, p. 128)	Rare MoS_2 in radioactive pegmatite.
Foley twp., con. 5, lots 32 and 33. (Big Four)	Coleman (1900, p. 167), Parsons (1917, p. 295)	Minor MoS_2 in sulphide-rich rock.
Lount twp., con. 2, lot 18.	Satterly (1942, p. 48)	MoS_2 in garnet rock and hornblende gneiss.
Nipissing twp., con. 10, lots 28, 29. (Duncan Lake)	Lumbers (personal communication)	Minor MoS_2 in feldspar-rich pegmatites.

PETERBOROUGH COUNTY

ANSTRUTHER AND BELMONT TOWNSHIPS

Anstruther and Belmont Townships

Location: Lots 24 and 25, concession 14, Anstruther township. Near Cordova Mines, Belmont township, Peterborough county.

Minerals Present: Molybdenite.

Development: None reported.

Reference: Parsons (1917, p. 287-89).

Remarks: Two molybdenite occurrences have been reported from Peterborough County but neither report has been substantiated fully. One occurrence is in lot 24 or 25, concession 14, Anstruther township, and the other is near the Cordova Mines in Belmont township.

DISTRICT OF RAINY RIVER

Miscellaneous Occurrences

Location	References	Remarks
Halkirk twp., con. 2, lot 6. (Burnett)	M.R.D., files	MoS_2 in quartz stringers cutting metasediments and granite.
Kingsford twp.	O.D.M., resident geologist, Kenora, files	MoS_2 in pegmatite.
Steeprock Lake Area, N.T.S. 52B/13	Parsons (1917, p. 312), Vokes (1963, p. 79)	Molybdenite in quartz vein.
Turtle Lake - Crowrock Lake Area, N.T.S. 52B/13	Tanton (1925, p. 10C), Vokes (1963, p. 78)	Three small occurrences in pegmatite.
Bad Vermilion Lake; N.T.S. 52C/10	Parsons (1918, p. 181), Vokes (1963, p. 78)	Molybdenite and pyrite in conglomerate matrix.

RENFREW COUNTY

ADMASTON TOWNSHIP

Gorman

Location: W½, lot 9, concession 9, Admaston township, Renfrew county.

Minerals Present: Molybdenite, pyrrhotite.

Development: In 1917, one large open cut and minor trenching. A sample of about 22 tons grading 0.38 percent MoS_2 was sent to Mines Branch, Ottawa.

Geology: Most of the molybdenite occurs with pyrrhotite in pyroxenite situated along the contact between limestone and granite-gneiss.

References: Eardley-Wilmot (1925, p. 82),
Satterly (1944, p. 70),
Quinn (1952, p. 55-56),
Vokes (1963, p. 183).

Kiley

Location: Lot 8, concession 13, Admaston township, Renfrew county.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: 2 small pits.

Geology: A small vein of pyrite and pyrrhotite carrying MoS_2 occurs along the contact of banded limestone and gneiss.

References: Eardley-Wilmot (1925, p. 83),
Satterly (1944, p. 71),
Quinn (1952, p. 56),
Vokes (1963, p. 163).

BAGOT TOWNSHIP

Goldyke Mines Limited

Zenith or Phoenix Mine

Location: Lots 27 and 28, concession 4, Bagot township, Renfrew county.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: Prior to 1924, a shallow shaft, trenching and stripping was done. Between 1924 and 1937, work consisted of a shaft to 205 feet with considerable development on 2 levels, 2,000 feet of drilling. A 100-150 ton mill operated intermittently from 1934 to 1937. From 1938 to 1940, 4,800 feet of surface trenching, some diamond drilling and development was done on the second level by Zenith Molybdenite Corp. Ltd. December 1942, to April 1943, Wartime Metals Corp. did 874 feet of underground development and 836 feet of underground drilling. In May, 1955, Goldyke Mines Ltd. unwatered the shaft and drilled 5 holes in the search for radioactive mineralization.

Geology: The most important molybdenite zones occur in pyroxenite bodies near dikes, sills and irregular masses of pegmatite. The molybdenite zones are relatively short, narrow, lenticular bodies.

Production: Produced about 80 tons of ore prior to 1924. From 1934-1937, 8,579 tons hoisted with some 15 to 22 tons of concentrates consisting of 80-85 percent MoS_2 produced. 1942 to 1943, 400 tons at 0.85 percent MoS_2 were produced.

References: Freeman (1936, p. 16-20),
Satterly (1944, p. 73-75),
Quinn (1951, p. 58-59),
Vokes (1963, p. 159-160),
O.D.M., resident geologist, Toronto, files.

Remarks: Not considered economic.

Buckhorn

Location: E½, lot 28, concession 4, Bagot township, Renfrew county.

Minerals Present: Molybdenite, pyrite.

Development: In 1939-40, Buckhorn Mines Ltd. put down a number of pits and trenches. In 1943, 7 diamond drill holes were completed.

Geology: Molybdenite occurs with pyrite and rusty pyroxenite.

Dimensions and Grade: Drilling indicated 1,500 tons of material averaging about 1.0 percent MoS_2 (Quinn 1951, p. 57).

References: Satterly (1944, p. 72-73),
Quinn (1951, p. 57),
Vokes (1963, p. 162).

BLITHFIELD TOWNSHIP

Quilty

Location: W½, lot 29, concession 1, Blithfield township, Renfrew county.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: Six pits along granite-limestone contact. Main pit 50 feet by 70 feet, and 10 feet deep.

Geology: Contact zone between granite and limestone contains a mineralized zone consisting of disseminated pyrrhotite, pyrite and molybdenite in pyroxenite.

Production: 19 tons of 0.45 percent MoS_2 was shipped to Mines Branch, Ottawa in 1917.

References: Satterly (1944, p. 77),
Quinn (1951, p. 60),
Vokes (1963, p. 164).

BROUGHAM TOWNSHIP

Hunt Mine

Location: Lots 8 and 9, concession 11, Brougham township, Renfrew county.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: Between 1915 and 1918, work consisted of about 1,800 to 2,000 feet of cross-cuts and drifts on four levels to a maximum depth of 150 feet. 230 feet of shafts and raises connect these workings and 400 feet of drifts have been widened out into stopes.

In 1914, 3 diamond drill holes totalling 321 feet and in 1965, New Far North Exploration Ltd. did a self potential survey.

Geology: A contact metamorphic deposit occurring between massive reddish pegmatitic granite and limestone and gneiss.

Production: In 1915, 16 tons grading 0.84 percent MoS_2 was shipped to Ottawa. Between 1916 and 1918, 19,949 tons of material was mined and total concentrates produced amounted to 96,990 pounds, 85 percent of which averaged about 95 percent MoS_2.

References: Wilson (1919, p. 37-41),
Eardley-Wilmot (1925, p. 89-94),
Vokes (1963, p. 146-150),
O.D.M., assessment work files, Toronto.

Charron

Location: S½, lot 15, concession 11, Brougham township, Renfrew county.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: Large open cut, pits and stripping. In 1965, A.C.A. Howe sampled and mapped the property for Ciglen Investments Ltd.

Geology: Molybdenite occurs in a pegmatite zone cutting paragneiss.

References: Parsons (1917, p. 294),
Satterly (1944, p. 79, 80),
O.D.M., assessment files, Toronto.

Ross

Location: Lot 16, concession 11, Brougham township, Renfrew county.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: 2 open cuts and shallow shaft up to 1917. In 1965, A.C.A. Howe and Associates examined the property for Ciglen Investments Ltd.

Geology: Stringers of pyrite, pyrrhotite with some molybdenite occur in granitic gneisses.

Production: An estimated 720 tons grading about 1.0 percent MoS_2 was shipped from the property. Much of this was hand cobbed.

References: Eardley-Wilmot (1925, p. 74-97),
Satterly (1944, p. 80-81),
Vokes (1963, p. 150),
O.D.M., assessment files, Toronto.

O'Brien Mine

Location: S½, lot 17, concession 11, Brougham township, Renfrew county.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: Extensive shafts, pits, trenches prior to 1917. In 1942, Mount St. Patrick Molybdenite Syndicate carried out surface work and shipped 20 tons of ore recovering 423 pounds of MoS_2. 18 drill holes totalling 1,000 feet were put down in 1943. Property was examined and sampled in 1965 for Ciglen Investments Ltd.

Geology: Sulphide mineralization in gneisses as concordant layers.

Dimensions and Grade: 2,000 tons of possible material grading 1.0 percent MoS_2 (Satterly 1944, p. 81).

References: Freeman (1936, p. 12),
Satterly (1944, p. 81),
Vokes (1963, p. 152-154),
O.D.M., assessment files, Toronto.

Sunset

Location: Lot 36, concession 14, Brougham township, Renfrew county.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: Large open cuts and 70-foot shaft.

Geology: Pyrite and molybdenite occur in pyroxenite.

Production: In 1918, 20 tons of material ranging from 0.65 to 5.47 percent MoS_2 was sent to the Mines Branch, Ottawa. Recovery was 936 pounds of pure MoS_2.

References: Parsons (1917, p. 291),
Satterly (1944, p. 81),
Vokes (1963, p. 159-160).

GRIFFITH TOWNSHIP

Spain Mine

Location: Lots 30-32, concession 4, and lots 30-33, concession 5, Griffith township, Renfrew county.

Minerals Present: Molybdenite, pyrite, pyrrhotite.

Development: In 1916 to 1918, large open cut and shallow shaft.

In 1939, stripping, trenching and drilling (4,000 feet) done by North American Molybdenite Corp. Ltd. The property was sampled and drilled in 1965-1966 by New Far North Exploration Ltd.

Geology: Deposit occurs in an association of biotite gneiss, and pyroxene limestone intruded by pegmatite.

Production: In 1916-1919, 104 tons of ore treated yielding 8076 pounds of pure MoS_2 and 600 pounds of concentrates of unknown grade.

References: Parsons (1917, p. 297),
Wilson (1919, p. 41-43),
Eardley-Wilmot (1925, p. 101),
Freeman (1936, p. 13),
Vokes (1963, p. 155, 158).

LYNDOCH TOWNSHIP

McCoy

Location: S½, lot 34, concession 2, Lyndoch township, Renfrew county.

Minerals Present: Molybdenite.

Development: In 1916-17, trenching and pits. In 1938, a two-compartment shaft sunk 40 feet and surface open cuts.

Geology: Molybdenite occurs in a pyroxene syenite pegmatite intruding crystalline limestone.

Production: Production of one ton grading 0.4 percent MoS_2 and eight tons of 93 percent picked flake in 1916. One ton of 0.89 percent MoS_2 in 1917.

References: Eardley-Wilmot (1925, p. 103),
Satterly (1944, p. 84-86),
Hewitt (1953, p. 73),
Vokes (1963, p. 165, 166).

Jamieson Mine

Location: Lots 5 and 6, concession 8, Lyndoch township, Renfrew county.

Minerals Present: Molybdenite, sphalerite, galena, chalcopyrite, pyrite, pyrrhotite.

Development: Open cuts, trenching and 40-foot inclined shaft prior to 1917.

Geology: Molybdenite occurs near the contacts of granite and pegmatite with limestone.

Production: Production of 285 tons grading 2.09 percent MoS_2 in 1915-16.

References: Walker (1911, p. 45),
Parsons (1917, p. 303),
Eardley-Wilmot (1925, p. 103-105),
Freeman (1936, p. 15),
Satterly (1944, p. 86),
Hewitt (1953, p. 74-76),
Vokes (1963, p. 166).

RAGLAN TOWNSHIP

Liedke and Windle

Location: Lots 27, concessions 9 and 10, Raglan township, Renfrew county.

Minerals Present: Molybdenite and pyrrhotite.

Development: In 1917, a large pit was excavated and in 1939 work consisted of a considerable amount of trenching and test pitting, shallow shaft and 1,000 feet of drilling by Edgemont Mines Ltd. In 1942, Edgemont Molybdenite Mines Ltd. did some trenching.

Geology: Fractures in a pegmatite dike cutting limestone and gneisses carry molybdenite.

Production: Edgemont Molybdenite Mines Ltd. shipped 27 tons of 0.75 percent MoS_2, in 1942.

References: Parsons (1917, p. 209),
Eardley-Wilmot (1925, p. 105-106),
Freeman (1936, p. 13 and 15),
Satterly (1944, p. 87),
Hewitt (1953, p. 76-77),
Vokes (1963, p. 166-167).

ROSS TOWNSHIP

Rose

Location: Lot 22, concession 2, Ross township, Renfrew county.

Minerals Present: Molybdenite, pyrite.

Development: Prior to 1911, trenches and open cuts were excavated. In 1918, more open cuts and shallow shaft.

Geology: Minor MoS_2 occurs in pegmatite cutting gneiss.

Production: Production 1916 to 1918 was about 17.25 tons.

References: Walker (1911, p. 46-47),
Parsons (1917, p. 310),
Eardley-Wilmot (1925, p. 106),
Satterly (1944, p. 87-88),
Vokes (1963, p. 167).

RENFREW COUNTY

Miscellaneous Occurrences

Location	References	Remarks
Admaston twp. con. 12, lots 15 and 17.	Freeman (1936, p. 15)	Not described
Admaston twp., con. 13, lot 8, W½.	Satterly (1944, p. 71), Quinn (1951, p. 56)	MoS_2 in rusty pegmatite.
Bagot twp., con. 1, lot 29. (Buckhorn)	Satterly (1944, p. 71), Quinn (1951, p. 6)	Associated with pyrite and pyrrhotite.
Bagot twp., con. 4, lot 25. (Morin)	Parsons (1917, p. 289)	MoS_2 with pyrrhotite in pyroxenite.
Bagot twp., con. 4, lot 6. (Hond Lake)	Satterly (1944, p. 71), Quinn (1951, p. 57)	MoS_2 with pyrite in pyroxenite.
Bagot twp., con. 4, lot 29, E½.	Satterly (1944, p. 75), Quinn (1951, p. 59)	MoS_2 in fractures in pegmatite.
Bagot twp., con. 4, lot 30. (Buckhorn)	Satterly (1944, p. 76), Quinn (1951, p. 59)	Not economic
Bagot twp., con. 5, lot 11.	Satterly (1944, p. 76), Quinn (1951, p. 59)	Minor MoS_2 in narrow pegmatites.
Bagot twp., con. 10, lot 15, S½. (Hunter)	Satterly (1944, p. 76), Parsons (1917, p. 288-289)	MoS_2 and pyrite in pegmatite-limestone contact. In 1890, 100 pounds of pure flake produced.
Bagot twp., con. 12, lot 28, E½. (Culhane)	Eardley-Wilmot (1925, p. 87-88), Satterly (1944, p. 77)	MoS_2 in pyroxenite, 200 pounds of flake shipped in 1915.
Bromley twp., con. 5, lot 24. (Cole or Puritan)	Parsons (1917, p. 240), Vokes (1963, p. 164, 165)	Erratic MoS_2 in pyroxenite and pegmatite.
Brougham twp., con. 1, lot 17. (Box)	Freeman (1936, p. 12), M.R.D., files	Minor MoS_2 in massive pyrite and pyrrhotite.
Brougham twp., con. 1, lot 18. (Madawaska)	Satterly (1944, p. 78)	Maybe same as showing above.
Brougham twp., con. 11, 13, 14, lots 13, 14, 15. (Maloney)	Freeman (1936, p. 162), Eardley-Wilmot (1925, p. 99)	Minor MoS_2 in pyritic stringers.
Brougham twp., con. 11 and 12. (Bob)	O.D.M., assessment files, No. 63A968, Toronto.	Minor MoS_2 in pyritic seam.
Brougham twp., con. 12, lot 8. (Guiney)	Walker (1911, p. 47), Quinn (1951, p. 64)	Minor MoS_2 at limestone-pegmatite contact.
Brougham twp., con. 12, lot 18. (Morin-O'Brien)	Freeman (1936, p.12), Quinn (1951, p.64)	Minor MoS_2 in pyritic stringers.
Burns twp., con. 2, lot 13, S½.	Satterly (1944, p. 82)	Minor MoS_2 in quartz-rich pegmatite.
Grattan twp., con. 11, lot 11, N½.	Freeman (1936, p. 14), Satterly (1944, p.82)	Pegmatite with minor MoS_2
Griffith twp., con. 4, lots 33 and 34.	Freeman (1936, p. 13), Satterly (1944, p. 83-84)	MoS_2 in pegmatite.
Griffith twp., con. 7, lot 18, S½. (Lepine)	Satterly (1944, p. 84), Vokes (1963, p. 165)	MoS_2 in pyritic veinlets.
Lyndoch twp., con. 5, lot 33.	Hewitt (1953, p. 74)	Sparse MoS_2 in calcite stringers.
Lyndoch twp., con. 7, lot 4.	Hewitt (1953, p. 74)	MoS_2 in pyroxenite pegmatite.
Lyndoch twp., con. 8, lot 7. (Legree)	Hewitt (1953, p. 76)	MoS_2 along granite gneiss-sediment contact.
Lyndoch twp., con. 8, lot 9. (Legree)	Satterly (1944, p. 86)	Produced 155 tons ore.
Lyndoch twp., con. 14, lot 4.	Hewitt (1953, p.76)	MoS_2 in pink leucogranite.
Matawatchan twp., con. 6, lot 3. (Wilson)	Parsons (1917, p. 305), Satterly (1944, p. 86-87)	MoS_2 in pyroxenite.
McNab twp., con. 4, lot 19.	Quinn (1951, p. 65)	MoS_2 in granite pegmatite.
Raglan twp., con. 18 and 19, lots 2, 3, 4, (Craig Mine)	Parsons (1917, p. 309), Satterly (1944, p. 33).	MoS_2 in corundum deposit.
Raglan twp., con. 18, lot 6.	Walker (1911, p. 46)	MoS_2 with corundum-bearing rocks.
Ross twp., con. 9, lot 7, W½.	Walker (1911, p. 47), Satterly (1944, p.88)	Occurs with pyrite in limestone.
Sebastopol twp., con. 2, lots 14 and 15.	Satterly (1944, p. 88-89)	Gneisses intruded by pegmatite.
Sebastopol twp., range C, south, lots 36 to 38.	Parsons (1917, p. 310), Satterly (1944, p. 89)	Associated with pyritic pyroxenite and pegmatite.

DISTRICT OF SUDBURY

CABOT TOWNSHIP

Saville

Location: East arm of Claw Lake, Cabot township, District of Sudbury.

Minerals Present: Molybdenite, gold, galena, chalcopyrite, hematite and pyrite.

Development: Between 1919 and 1922, the property was staked by T. Saville as a gold prospect. In 1960, Claw Lake Molybdenum Mines Ltd. obtained 37 claims in the area. In 1966, the company diamond drilled the property.

Geology: Molybdenum occurs in quartz veins and stockworks contained in brecciated and sheared zones cutting volcanic rocks.

References: Laird (1934, p. 68),
Vokes (1963, p. 83),
Northern Miner (February 16, 1967),
M.R.D., files.

CHESTER TOWNSHIP

Three Ducks Syndicate

Location: East shore of Three Ducks Lake, Chester township, District of Sudbury.

Minerals Present: Molybdenite, gold, chalcopyrite, sphalerite, tetradymite, molybdite, pyrite, arsenopyrite, pyrrhotite.

Development: In 1930, A. Gosselin staked the property as a gold prospect. In 1931, Consolidated Mining and Smelting Co. of Canada Ltd. optioned the property

and did some diamond drilling. In 1935, the property was acquired by Young-Shannon Gold Mines Ltd. and a shaft 1,950 feet deep and 100 feet of diamond drilling was done. In 1965, Gogama Gold Mines Ltd. optioned the property. The company did geological mapping and a geophysical survey.

Geology: Molybdenite and molybdite occur along with visible gold and tetradymite in quartz veins.

References: Laird (1932, p. 28-30),
Vokes (1963, p. 83),
O.D.M., resident geologist, Sudbury, files.

Remarks: Primarily a gold prospect.

DESROSIERS TOWNSHIP

Jonsmith Mines Limited

Location: West side of Alike Lake, DesRosiers township, District of Sudbury.

Minerals Present: Molybdenite.

Development: In 1959, Jonsmith Mines Ltd., did geological mapping and surface work on 95 claims. In 1960, the company drilled 18 holes totalling 4,452 feet and sunk two test pits; 50 tons assayed 1.0 percent MoS_2 from pit No. 1 and 165 tons assayed 2.25 percent from pit No. 2.

Geology: Molybdenite occurs as grains and aggregates in pegmatite and feldspathic quartz veins, as disseminated grains in sheared volcanics and basic intrusives, and as segregations in granite near granite contacts.

References: Vokes (1963, p. 83),
Bannerman (1933, p. 710),
Northern Miner (January 1, 1959),
Canadian Mines Handbook 1966-67 (p. 167),
O.D.M., resident geologist, Sudbury, files.

DISTRICT OF SUDBURY

Miscellaneous Occurrences

Location	References	Remarks
Chester twp , East side of Mesomikenda Lake, (Eccles-Holmes)	Laird (1934, p. 75-76), Vokes (1963, p. 83)	5 pits reveal MoS_2 with gold, silver, and copper in quartz veins.
Denison-Graham twp. boundary, Vermilion River	Bell (1890-1891, p. 25F), Parsons (1917, p. 297), Vokes (1963, p. 84)	Molybdenite in quartz veins cutting diorite.
Drury twp., con. 2, lot 3. (Worthington Mine)	Coleman (1905, p. 161), Vokes (1963, p. 84)	Molybdenite occurs as fissure fillings.
DesRosiers twp., Twin Lake.	Bannerman (1928, p. 27c)	Molybdenite in pegmatite.
Elizabeth twp., Ramsay Lake.	Rogers (1962, p. 32)	Molybdenite in pegmatite vein.
Foster twp., con. 3, lots 8 and 9. (Texas Gulf Sulphur)	O.D.M., resident geologist, Sudbury, files	Tungsten prospect with minor MoS_2.
Hess twp., northern part.	Osborne (1929, p. 67)	Molybdenite in quartz-rich granite.
Huffman twp., east arm of Opeepeesway Lake (Dunne)	O.D.M., resident geologist, Sudbury, files, O.D.M., map P285	MoS_2 in quartz-feldspar porphyry.
Huffman twp., east arm of Opeepeesway Lake (Worthington Mines Ltd.)	O.D.M., resident geologist, Sudbury, files, Northern Miner (October 22, 1961) (June 28, 1962)	MoS_2 with gold and silver in red feldspar porphyry.
McKim twp., con. 5, lot 11. (Murray Mine)	M.R.D., files	Minor MoS_2 occurs with nickel-copper ores in quartz diorite breccia.
Osway twp., Opeepeesway Lake, (Jerome Mine)	Brown (1948, p. 439), Moorhouse (1949, p. 22), Vokes (1963, p. 83)	MoS_2 as minor constituent in gold ore.
Osway twp., northeast corner	Moorhouse (1949, p. 15)	Not described.
Roberts twp., latitude 46°58', longitude 81°06'. (Mataris prospect)	Eardley-Wilmot (1925, p. 106)	MoS_2 in quartz-veins cutting granite.
Swayze twp., Kenty Gold Mine	Vokes (1963, p. 83)	MoS_2 in quartz-veins cutting volcanic rock.

DISTRICT OF THUNDER BAY

CONMEE TOWNSHIP

Young-Walsh

Location: Lot 3, concession 2, Conmee township, District of Thunder Bay.

Minerals Present: Molybdenite, chalcopyrite, galena, pyrite.

Development: A 50-foot shaft with 18 feet of cross-cutting along with extensive trenching and test pitting completed prior to 1925.

Geology: Molybdenite occurs in a pegmatitic quartz vein within a large dike of pyritiferous chlorite syenite.

Production: In 1918 270 pounds of material assaying 1.29 percent MoS_2 was sent to Mines Branch, Ottawa.

References: Eardley-Wilmot (1925, p. 107), Tanton (1926, p. 26, 27), (1931, p. 198), Vokes (1963, p. 79).

DOROTHEA TOWNSHIP

Woods-Tyson (Amorada or Nortoba)

Location: Dorothea township, District of Thunder Bay, 2 miles west of Bish Bay on Lake Nipigon.

Minerals Present: Gold, silver, molybdenite.

Development: In 1935, Amorada Gold Mines Ltd. was incorporated to develop the property. In 1936 the molybdenite-bearing vein was sampled by Consolidated Mining and Smelting Co. Can. Ltd. and by Dept. of Mines and Resources, Ottawa in 1942.

In 1957 Messrs. Elliot and Montgomery restaked the property and Northwind Exploration Ltd. was formed to acquire and develop the property. In

1958 the property was purchased by Nortoba Mines Ltd. who carried out geophysical surveys, stripping, trenching and diamond-drilling in 1958-59.

In 1963, the property was acquired by Messrs. Woods and Tyson, who optioned the property to Candore Exploration Ltd. in 1965. The company did geological surveying, trenching, stripping, and diamond-drilling consisting of 9 holes totalling 2786 feet.

Geology: Molybdenite occurs in 2 quartz veins associated with quartz diorite intrusives.

Dimensions: In 1958, estimated 72,000 tons of material grading 2.0 percent MoS_2 over a width of 36 inches along a strike length of 1220 feet (M.R.D. files).

References: Laird (1936, p. 88-91),
Vokes (1963, p. 80),
M.R.D., files,
O.D.M., resident geologist, Port Arthur, files.

McTAVISH TOWNSHIP

Briar Court Mines Limited

Location: Lots 4 and 5 (part of), concession 8, McTavish township, District of Thunder Bay. Claims T.B. 91737 and 91738 (main showing).

Minerals Present: Molybdenite.

Development: Stripping and test pits in 1918, in 1959 Lindsay Explorations drilled 18 holes totalling 2114 feet, later drilling by Billiton Mining Co. Ltd. of Holland. 1965-67 Briar Court Mines Ltd. obtained 32 claims covering the area and completed a magnetometer survey, 22 claims were purchased by Caribou Gold Quartz Mining Co. in 1967.

Geology: The mineralization occurs in a pegmatite dike intruded into greywacke and biotite schists along a north-south contact zone between granite and sediments.

Dimensions and Grade: Length of the mineralized zone is 2600 feet with widths ranging from 20 to 180 feet (company prospectus, 1966).

References: Vokes (1963, p. 80),
Prospectus of Briar Court Mines Ltd. 1966,
M.R.D., files,
O.D.M., resident geologist, Port Arthur, files.

Jackfish-Pritchard (Martin-Hunt) (Owl Lake)

Location: N.T.S. 42D/14, Lat. 48°56'12", Long. 87°02',
District of Thunder Bay.

Minerals Present: Molybdenite, pyrite, pyrrhotite, gold.

Development: In 1920 and 1921, a shaft 8 feet deep along with several trenches and pits were excavated.

In 1960, Empire Explorations Ltd. did magnetometer and self-potential surveys, geological mapping, trenching and packsack diamond-drilling.

In 1965, Martin-Hunt Mining Ltd. drilled 3 holes totalling 350 feet. In 1967 the property was restaked by S. Cowan.

Geology: Molybdenite occurs in a quartz-rich zone in a fractured aplitic granite that occurs as a narrow tongue in greenstone.

References: Bartley (1938, p. 40),
Walker (1965, p. 5),
Walker (1967, p. 35, 36),
Martin-Hunt Mining Ltd. Prospectus, 1966,
O.D.M., resident geologist, Port Arthur, files.

Estell (Knox-Lang)

Location: N.T.S. 42D/14, Lat. 48°59'50", Long. 87°17'20",
District of Thunder Bay.

Minerals Present: Molybdenite, chalcopyrite, pyrite, pyrrhotite, gold.

Development: In 1913 some trenching and test pitting. Stratmat Ltd. carried out a resistivity survey and drilled 16 holes totalling 6,775 feet.

In 1960 K.R.N.O. Mines Ltd. drilled 2 short x-ray holes.

Geology: Mineralization occurs in sugary textured quartz veins cutting hornblende schist.

Dimensions and Grade: Low grade and spotty mineralization.

References: Pye (1961, p. 31-34),
O.D.M., resident geologist, Port Arthur, files.

Burstrom

Location: N.T.S. 42E/3, Lat. 49°00'10", Long, 87°18', District of Thunder Bay.

Minerals Present: Chalcopyrite, molybdenite, gold, silver, pyrite.

Development: In 1915 a 50-foot trench, 2 test pits and a 35-foot shaft were sunk. In 1959 K.R.N.O. Mines Ltd. drilled 1 hole 240 feet deep.

Geology: Molybdenite occurs in two parallel quartz veins cutting hornblende schist.

Dimensions and Grade: The best assay gave 1.05 percent copper and 0.11 percent molybdenum over a core length of 5.0 feet (Pye 1964, p. 24).

References: Hopkins (1921, p. 23),
Bartley (1940, p. 11),
Pye (1964, p. 23, 24).

Moly-Ore Mines Limited

Location: N.T.S. 42E/15, west shore of Burrows Lake, District of Thunder Bay.

Minerals Present: Molybdenite, molybdite, chalcopyrite, pyrite.

Development: Prior 1938, surface work was done by Messrs. Chubish and Gascon. The property was optioned in 1938 by Consolidated Mining and Smelting Co. of Canada Ltd. In 1940 6 holes were drilled. In 1942 Nakina Molybdenite Mines Ltd. held the property. The property is presently held by Moly-Ore Mines Ltd.

Geology: Molybdenite occurs as coarse flakes in or near quartz bodies and lenses in granite and is also disseminated through areas of gneissic granite.

Dimensions and Grade: Estimated 19,400 tons material containing a possible 751,400 pounds MoS_2 (M.R.D. files).

References: Eardley-Wilmot (1925, p. 107),
MacDonald (1941, p. 13-14),
Vokes (1963, p. 80),
M.R.D. files.

Barnes

Location: N.T.S. 52A/10 NW, 6 miles west and 1 mile north of Loon Station on C.P.R. line, District of Thunder Bay.

Minerals Present: Molybdenite, chalcopyrite, selenium, gold, pyrite, pyrrhotite.

Development: In 1955, Wright-Hargreaves Mines Ltd. did a dip needle survey, trenching and stripping and diamond-drilled 12 holes totalling 4815 feet.

In 1966 the property was held by J. Wodian.

Geology: Molybdenite occurs in flat southwesterly dipping quartz veins and pegmatite dikes cutting greywacke.

References: O.D.M., resident geologist, Port Arthur, files.

DISTRICT OF THUNDER BAY

Miscellaneous Occurrences

Location	References	Remarks
Chipman twp. (Pine Lake deposit)	Hopkins (1918, p. 197)	MoS_2 occurs in pyrrhotite veins cutting hornblende gneiss.
Daley twp.	Fairburn (1937, p. 17), Vokes (1963, p. 81)	MoS_2 in syenite dikelets cutting amphibolite.
Dorion twp. (New Senator-Rouyn)	Northern Miner (Jan. 13, 1966), (May 12, 1966) and (Nov. 10, 1966)	MoS_2 in quartz veins in schist.
Dorothea twp. (Sturgeon River Occurrence)	Laird (1936, p. 79), Vokes (1963, p. 80)	MoS_2 occurs with pyrite and chalcopyrite in diorite.
Haines-Hagey twp. boundary	O.D.M. Map P. 223, G.S.C. Map 266A, Vokes (1963, p. 79)	MoS_2 in quartz veins cutting gabbro.
Homer twp. (Terrace Cove)	Logan (1863, p. 705), Parsons (1917, p. 312, 313), Vokes (1963, p. 81)	MoS_2 in quartz veins in feldspathic gneiss.
Jacques twp., Con. 1, lot 10	MacDonald (1939, p. 16), Vokes (1963, p. 79), O.D.M. Map 2065	MoS_2 in quartz vein.
Township 84 (McKenzie and Blanchford Claims)	Hopkins (1921, p. 23), Vokes (1963, p. 81)	MoS_2 and chalcopyrite in quartz vein.
Township 84 (Jackson) (Kay-Hays Mines Ltd.)	Hopkins (1921, p. 14, 15), Vokes (1963, p. 81), O.D.M. resident geologist, Port Arthur, files	Minor MoS_2 in gold-bearing quartz veins.
N.T.S. 42D/9, (Ryanor Mining Co.)	Northern Miner Press (March 3, 1966, p. 3)	MoS_2 with copper in basic intrusive.
N.T.S. 42D/14, Lat. 48°59'30", Long. 87°18' (Cooper)	Hopkins (1921, p. 22), Pye (1961, p. 64-65) and (1964, p. 31), Thomson et al (1957, p. 63), Vokes (1963, p. 81)	MoS_2 with pyrite, galena, and chalcopyrite in quartz lenses.
N.T.S. 42D/14, Lat. 48°59'45", Long. 87°18' (Sjolander)	Pye (1961, p. 29) and (1964, p. 37)	MoS_2 in a mineralized quartz vein cutting hornblende schist.
N.T.S. 42D/14, Lat. 48°59'45", Long. 87°18' 30" (Tribe)	Pye (1961, p. 80, 81) and (1964, p. 38, 39)	MoS_2 in a mineralized quartz vein cutting hornblende schist.
N.T.S. 42E/1/NE (Kagiano Mines)	O.D.M. Prel. Map P. 387, Company prospectus 1966	
N.T.S. 42E/13/NE, Lat. 49°59', Long. 87°44' (Kenty claims)	Gledhill (1925, p. 82), Kindle (1931, p. 98), Vokes (1963, p. 80)	MoS_2 in quartz veins cutting recrystallized greenstone.
N.T.S. 42E/13, Lat. 49°52', Long. 87°45' (Rolandson	Moorhouse (1938, p. 18), Vokes (1963, p. 80)	MoS_2 in quartz vein.
N.T.S. 42E/13, Lat. 50°00', Long. 87°37'	Moorhouse (1938, p. 18), Vokes (1963, p. 80)	MoS_2 in altered granite.
N.T.S. 42L/5, Lat. 50°21', Long. 87°47' (Zmudzinski)	Pye (1963, p. 11)	Minor MoS_2 in gold-quartz veins.
N.T.S. 52B/16/SW, Lat. 48°80'30", Long. 90°22'30"	Kaye (1967, p. 25, 27), Vokes (1963, p. 79) Walker (1911, p. 56)	MoS_2 is associated with in a large shear zone.
N.T.S. 52I/6, Lat. 50°20', Long. 89°20'	Hopkins (1918, p. 191, 194)	MoS_2 in granite and granite pegmatite.
N.T.S. 52J/1, Lat. 50°10', Long. 90°17' (Seseganaga Lake)	Gledhill (1924, p. 25, 28), Vokes (1963, p. 79)	MoS_2 associated with banded hornblende schists.
N.T.S. 52J/1, Lat. 50°13', Long. 90°23' (Near Harvey Station on CNR)	Gledhill (1924, p. 25), Vokes (1963, p. 79) Eardley-Wilmot (1923, p. 109)	MoS_2 in quartz-hornblende gangue.

DISTRICT OF TIMISKAMING

BOMPAS TOWNSHIP

Beiderman

Location: 1 mile south of Rib Lake, Bompas township, District of Timiskaming.

Minerals Present: Molybdenite, pyrite.

Development: 1939 to 1940, Greenlee Mines Ltd. did considerable trenching and 500 feet of shallow drilling in 7 holes. In 1957, 2 holes were drilled by Kirkland Mineral Corp. Ltd.

Geology: A quartz-rich pegmatite carrying clusters and stringers of molybdenite.

Dimensions and Grade: Average width is 12 feet and length of 300 feet. 63 pound sample sent to the Mines Branch, Ottawa in 1939 assayed 0.98 percent MoS_2 (M.R.D. files).

References: Vokes (1963, p. 85),
M.R.D., files,
O.D.M., resident geologist, Kirkland Lake, files.

BOSTON TOWNSHIP

Boston Molybdenum Mines Ltd.

Location: One-half mile east of Round Lake, Boston township, District of Timiskaming. Claims L.87456 to 87459.

Minerals Present: Molybdenite, pyrite.

Development: In 1942, surface exploration by Snails Molybdenite Mines Ltd. In 1966, bulldozing pits and trenches.

Geology: Mineralization consists of finely disseminated and erratic coarse flakes, streaks and patches of molybdenite in quartz carbonate veins in brecciated mass of pink syenite porphyry.

Dimensions and Grade: One area of 1,800 feet of mineralized vein over widths of 8.0 to 55 feet averages 0.63 percent MoS_2 (Northern Miner, July 28, 1966).

References: Savage (1964, p. 90),
O.D.M., resident geologist, Kirkland Lake, files.

McELROY TOWNSHIP

Newman

Location: McElroy township, District of Timiskaming, Lat. 48°04' Long. 79°52'.

Minerals Present: Molybdenite, gold, pyrite.

Development: Prior to 1950, the property was held as a gold prospect. In 1965, Midrim Mining Co. Ltd., Talisman Mines Ltd. and Multi-Minerals Ltd. jointly did surface work and 5 drill holes totalling 2077 feet.

Geology: Molybdenite occurs in an intrusive breccia zone cutting Timiskaming sediments.

Dimensions and Grade: Low grade indicated by diamond drilling.

References: Talisman Mines Ltd. Prospectus, April 29, 1966.
M.R.D., files.

POWELL TOWNSHIP

Pax International Mines Ltd.

Location: Powell township, District of Timiskaming.

Minerals Present: Chalcopyrite, molybdenite, pyrite, gold, silver.

Development: 1947: 10 claims staked by Ryan Lake Mines Ltd. and initial drilling was done.

1948: Teck Exploration carried out magnetometer and self-potential surveys and drilled 50 holes on selected anomalies.

1950-1956: Ryan Lake Mines Ltd. (later New Ryan Lake Mines and then Min-Ore Mines Ltd.) initiated underground work and mining activities through a 2-compartment shaft 459 feet deep opening 4 levels. Surface trenching and an unknown amount of drilling were carried out.

1957: G.S. Welsh leased the property and fed the mill from clean-up operations.

1958-1966: In 1958 Pax International Mines Ltd. (formerly International Molybdenum Mines Ltd. and International Ranwick Ltd.) resumed surface and underground exploration mainly on the 3rd and 4th levels. Drilling of 65 underground holes and several surface holes was carried out. In 1964 an I.P. survey covered the 10 patented claims and in 1965 to 1966 a geochemical survey and 5 surface and 16 underground drill holes were bored. 700 feet of drifting and raising were completed. Property purchased from Min-Ore Mines Ltd. in 1964.

1966-1967: Cominco optioned the property and work consisted of geological mapping, re-evaluation of previous work and 15 diamond drill holes totalling 8929 feet.

Geology: The deposit lies within an east-west belt of intermediate metavolcanics which are intruded by small bodies of syenitic feldspar porphyry

and Matchewan diabase dikes. The mineralized zones on the property appear to be related to steeply dipping, east-trending shear zones in the volcanic rocks.

Dimensions and Grade: In 1958 reserves were estimated to be sufficient for a 2-year supply for a 125 tons per day operation. Average grade was estimated at 0.5 percent Mo and 1.25 percent Cu and one dollar value gold per ton (Vokes 1963, p. 88).

Production: In 1964 11,393 lbs. of concentrates were shipped for a value of $19,026.00.

References: Vokes (1963, p. 87-98),
Lovell (1967, p. 37-38),
Report to Cominco by B. Free,
M.R.D., files.

DISTRICT OF TIMISKAMING

Miscellaneous Occurrences

Location	References	Remarks
Alma twp., Lat 48°02', Long. 80°32', (Chief)	Lovell (1967, p.32, 53)	Minor MoS_2.
Argyle twp. Lat. 48°04', Long 80°50', (Thompson)	Rickaby (1932, p.18)	Minor MoS_2 in gold quartz vein.
Baden twp., Thesaurus Gold Mines Ltd.	Lovell (1967, p.53), Dyer (1935, p.46)	Minor MoS_2 in gold-silver veins.
Baden twp., Lat. 48°02', Long. 80°43', (King)	Lovell (1967, p.53)	Associated with gold-quartz veins.
Baden twp., Lat. 48°04', Long. 80°46', (Richore)	Lovell (1967, p.53)	Minor MoS_2 in gold-silver quartz veins.
Benoit twp., Con. 2, lot 9, S/2, (Bourkes)	Wright (1921, p.53-55)	In gold-quartz veins.
Boston twp.	Vokes (1963, p.86), Abraham (1951, p.57, 61-63)	Several minor occurrences MoS_2 in gold-quartz veins. These include claim L5165, claim L4737 (Authier group), and claim L39837 (Tagliamenti claims).
Cairo twp., (Matachewan Hub)	M.R.D., files	Pyrite with some MoS_2 in volcanics.
Cairo twp., (Matachewan Con. Mines Ltd.)	Lovell (1967, p.53)	MoS_2 in gold ore.
Catherine twp., (Gold Hill Mines Ltd.)	Grant (1963, p.13), M.R.D., files	MoS_2 in gold-silver veins.
Catherine twp., Con. 5, lot 7, N/2, (Gold Ridge)	Grant (1963, p.14), M.R.D., files	Minor MoS_2.
Catherine twp., Con. 6, lot 7, S/2, (Gold Bank)	Grant (1963, p.14), Bell (1930, p.107)	MoS_2 and chalcopyrite in shear zone in volcanics.
Clifford twp., (Brett-Trethewey)	Gledhill (1928, p.23, 24), Vokes (1963, p.85)	Occurs with chalcopyrite in a shear zone.
Morrisette twp., (L. Martin)	Wright (1921, p.62), Burrow and Hopkins (1916, p.263)	MoS_2 and gold in carbonate zone.
Powell twp., (Noranda)	Lovell (1967, p.45)	MoS_2 in quartz-carbonate veins cutting syenite.
Powell twp., (Welsh)	Dyer (1935, p.42, 43), Lovell (1967, p.45)	MoS_2 in quartz veins.
Powell twp., (Welsh-Sauve-Cooper)	Lovell (1967, p.43)	MoS_2 in mineralized serpentinite.
Powell twp., (Young-Davidson Mines Ltd.)	North and Allen (1948, p.635), Lovell (1967, p.24, 42, 53)	Minor MoS_2 in gold-bearing quartz veins.
Skead twp., (Skead Gold), Con. 2, lot 20	Burrows and Hopkins (1921, p.21, 22), Vokes (1963, p.86)	MoS_2 in gold-pyrite berring quartz veins.
Skead twp., Con. 5 and 6, lot 10,(La Fond Gold Mines Ltd. - Sampson)	Hewitt (1949, p.31, 32, 39), Vokes (1963, p.86), Burrows and Hopkins (1921, p.24-25)	MoS_2 in mineralized quartz veins.
Teck twp.	Vokes (1963, p.85), Thompson (1948, p.110)	MoS_2 occurs commonly as an accessory mineral in gold-bearing quartz veins.
Terry twp., (Biederman)	Kindle (1936, p.147), Vokes (1963, p.85)	MoS_2 in a quartz-rich pegmatite vein.
Timmins twp.	Vokes (1963, p.85)	Minor MoS_2 in a gold-bearing quartz vein.

Miscellaneous Occurrences

Location	References	Remarks
Eby twp., Con. 6, lot 2, N/2, (Lucky Kirkland)	Dyer (1935, p.52-53), Vokes (1963, p.86)	MoS_2 associated with syenite and gold-quartz veins.
Gauthier twp., (Upper Canada Mines Ltd.)	Thomson (1941, p.45)	Minor MoS_2 in gold ore.
Gauthier twp., (Beaverhouse Lake Gold Mines)	Gledhill (1928, p.21, 34), Vokes (1963, p.86)	Minor MoS_2.
Hearst and Skead twps., (Tyon Gold Mines)	Thomson (1947, p.29), Vokes (1963, p.86)	MoS_2 with pyrite, galena and gold in quartz stockwork.
Holmes twp., Con. 3, lot 9, Golub Lake	O.D.M., Map 2078 in Moore (1966)	MoS_2 in syenite complex.
Holmes twp., Con. 3, lot 10, (Tully)	Moore (1966, p.16)	MoS_2 in quartz vein.
Knight twp., Pidgeon Lake (Hurst)	Graham (1932, p.60), Vokes (1963, p.86)	MoS_2 in gold-quartz veins.
Label twp., (Bidgood Kirkland)	Hopkins (1923, p.73-74), Vokes (1963, p.85-86)	MoS_2 in gold-quartz veins.
Label twp., (Queen Label property)	Hopkins (1923, p.69), Vokes (1963, p.85-86)	MoS_2 in gold-quartz veins.
Maisonville twp., Con. 3, lot 9, S/2, (Russell)	Lovell (1966)	Minor MoS_2 in gold-quartz veins.
Maisonville twp., Con. 3, lot 10, N/2	Lovell (1966)	Disseminated MoS_2 in syenite.
Maisonville twp., Con. 4, lot 6, S/2, (McDonald)	Lovell (1966)	MoS_2 in quartz stringers in syenite.
McElroy twp., (Charest)	Eardley-Wilmot (1925, p.110, Abraham (1950, p.44)	MoS_2 in quartz vein in granite.
McElroy twp., (Judge)	Bell (1930, p.108-109), Vokes (1963, p.86)	Minor MoS_2 in quartz-calcite vein.
McElroy twp., (O'Hare)	Abraham (1950, p.52), Vokes (1963, p.86)	MoS_2 in breccia zone.
McGarry twp., (Kerrigan Gold Mines)	Canadian Mines Handbook (1966-67, p. 175)	MoS_2 in gold-quartz veins.

VICTORIA COUNTY

LAXTON COUNTY

Horscroft and Ponton-Russell Mines

Location: Lot 5, concession 11, Laxton township, Victoria county.

Minerals Present: Molybdenite, pyrite.

Development: Up to 1916, a large open cut, trenches and a 50-foot shaft were excavated. In 1955-56, Rio Tinto Mines Ltd. diamond drilled 6 holes. In 1965, Nocana Mines Ltd. and Texas Kidd Mines Ltd. did surface work and sampled the property.

Production: Production of 3½ tons of material in 1902 was valued at $400 and in 1915 432 pounds of concentrates valued at $550 were shipped.

References:
Parsons (1917, p. 301, 302),
Eardley-Wilmot (1925, p. 110, 111),
Satterly (1943, p. 70),
Vokes (1963, p. 143),
M.R.D., files,
O.D.M., statistical files.

VICTORIA COUNTY

Miscellaneous Occurrences

Location	References	Remarks
Digby twp., con. 7, lot 16.	Parsons (1917, p. 295)	
Somerville twp., con. A, lot 3. (Adair)	Eardley-Wilmot (1925, p. 111), Satterly (1943, p. 70), Parsons (1917, p. 299), Vokes (1963, p. 143)	Molybdenite in contact between crystalline limestone and quartzose mica schist.

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